CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 01-072
NPDES PERMIT NO. CA0037702

REISSUING WASTE DISCHARGE REQUIREMENTS FOR:

EAST BAY MUNICIPAL UTILITY DISTRICT
SPECIAL DISTRICT NO. 1
WATER POLLUTION CONTROL PLANT
OAKLAND
ALAMEDA COUNTY

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FINDINGS

The California Regional Water Quality Control Board, San Francisco Bay Region, hereinafter called the Board, finds that:

1. The East Bay Municipal Utility District, Special District No. 1, hereinafter called EBMUD or the Discharger, submitted a Report of Waste Discharge for reissuance of waste discharge requirements and a permit to discharge wastewater to waters of the State and the United States under the National Pollutant Discharge Elimination System (NPDES).

2. The Discharge was previously regulated by Waste Discharge Requirements in Order No. 94-127, adopted by the Board on September 21, 1994. Order No. 94-127 was amended by Order No. 97-142 adopted by the Board on December 17, 1997. This discharge is into Central San Francisco Bay.

Facility Description

3. **Location:** The Discharger owns and operates the East Bay Municipal Utility District, Special District No. 1 wastewater treatment plant, located at 2020 Wake Avenue, Oakland, Alameda County, California. A location map of the facility is included as Attachment A of this Order.

4. **Service Area and Population:** The plant provides secondary treatment of wastewater from domestic, commercial and industrial sources from the cities of Albany, Alameda, Berkeley, Emeryville, Oakland, Piedmont, and Stege Sanitary District. The Discharger's service area has a present population of about 636,635.

5. **Wastewater Treatment Process:** The wastewater treatment process consists of odor control, grit removal, primary clarification, high purity oxygen activated sludge, secondary clarification, disinfection, dechlorination, and blending of primary and secondary effluent during periods of effluent flows in excess of the secondary treatment capacity. A treatment process schematic diagram is included as Attachment B of this Order.

6. **Sludge Treatment Process:** Sludge is currently thickened, anaerobically digested and dewatered before reuse by land application or alternative daily cover in an authorized sanitary landfill.

Effluent Discharge Description:

7. **Discharge Location:** The treated wastewater is discharged into Central San Francisco Bay, a Water of the State and United States. The wastewater is discharged through a submerged diffuser adjacent to the San Francisco-Oakland Bay Bridge about 5,664 feet off shore at a depth of 45 feet below mean lower low water (Longitude 122 deg., 20 min., 55 sec.; Latitude 37 deg., 49 min., 2 sec.). Based on a study conducted by the discharger, the outfall achieves a worst case initial dilution greater than 15:1 and a typical initial dilution of 45:1.

8. **Discharge Volume and Plant Capacity:** The treatment plant has an average dry weather flow design capacity of 120 million gallons per day (MGD). For wet weather flows, the facility can provide partial secondary treatment up to 325 MGD. Of this, approximately 157 MGD receive primary treatment and up to 168 MGD receive secondary treatment. The plant presently discharges an annual average daily flow of 79.6 MGD.

9. **Wet Weather Treatment Facilities:** The Board issued a separate NPDES permit (Order No. 98-005, NPDES Permit No. CA0038440) to the Discharger which regulates the discharge from its wet weather treatment facilities. These facilities provide for the storage of wet weather sewerage and blending of primary and secondary effluent during wet weather periods when the secondary capacity is exceeded. Order No. 98-005 permits the discharge of overflows from the collection system during rainfall events greater than the 5-year design storm.

10. **Collection System Discharges:** The Board has issued separate NPDES permits (Order Nos. 94-113 to 94-118) to seven local agencies (Alameda, Albany, Berkeley, Emeryville, Oakland, Piedmont, and Stege Sanitary District) which specify requirements for the discharge of wastewater during wet weather from each agencies' collection systems.

11. **Discharge Classification**: The U.S. Environmental Protection Agency (U.S. EPA) and the Board have classified this discharge as a major discharge.

Stormwater Discharge Description:

12. Federal regulations for stormwater discharges were promulgated by U.S. EPA on November 19, 1990. The regulations [40 Code of Federal regulations (CFR) Parts 122, 123, and 124] requires specific categories of industrial activities including Publicly Owned Treatment Works (POTWs) that discharge stormwater associated with industrial activity (industrial stormwater) to obtain an NPDES permit and to implement Best Available Technology Economically Available (BAT) and Best Conventional Pollutant Control Technology (BCT) to control pollutants in industrial stormwater discharges. POTWs are not required to obtain a separate NPDES permit if all stormwater flows from the treatment facility are treated by the POTW.

13. The stormwater from the wastewater treatment facility process areas are directed to the wastewater treatment plant head works and are treated along with the wastewater discharged to the treatment plant. These stormwater flows constitute all industrial stormwater at this facility and consequently this permit regulates all industrial stormwater discharges at this facility.

Regional Monitoring Program

14. On April 15, 1992, the Board adopted Resolution No. 92-043 directing the Executive Officer to implement the Regional Monitoring Program (RMP) for the San Francisco Bay. Subsequent to a public hearing and various meetings, Board staff requested major permit holders in this region, under authority of Section 13267 of California Water Code, to report on the water quality of the estuary. These permit holders, including the Discharger, responded to this request by participating in a collaborative effort, through the San Francisco Estuary Institute (formerly the Aquatic Habitat Institute). This effort has come to be known as the San Francisco Bay Regional Monitoring Program for Trace Substances. This Order specifies that the Discharger shall continue to participate in the RMP, which involves collection of data on pollutants and toxicity in water, sediment and biota of the estuary. Annual reports from the RMP are referenced elsewhere in this Order.

15. The Discharger shall collect or participate in collecting background ambient receiving water data with other dischargers and/or through the RMP. This information is required to perform Reasonable Potential Analysis and to calculate effluent limitations. A sampling plan shall be submitted to the Executive Officer for approval, prior to sampling.

Applicable Plans, Policies and Regulations

Basin Plan

16. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin on June 21, 1995 (Basin Plan). This updated and consolidated plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resources Control Board (SWRCB) and the Office of Administrative Law on July 20 and November 13, respectively, of 1995. A summary of regulatory provisions is contained in Title 23 of the California Code of Regulations at Section 3912. The Basin Plan identifies beneficial uses for Waters of the State in the Region, including surface waters and groundwaters. The Basin Plan also identifies water quality objectives, discharge prohibitions and effluent limitations intended to protect beneficial uses. This Order implements the plans, policies and provisions of the Board's Basin Plan.

Beneficial Uses:

17. Beneficial uses of Central San Francisco Bay and contiguous water, as identified in the Basin Plan and based on known uses of the receiving waters in the vicinity of the discharges, are:

    a. Ocean, Commercial, and Sport Fishing
    b. Estuarine Habitat
    c. Industrial Service Supply
    d. Industrial Process Supply
    e. Fish Migration
    f. Fish Spawning
    g. Navigation
    h. Preservation of Rare and Endangered Species
    i. Water Contact Recreation
    j. Noncontact Water Recreation
    k. Shellfish Harvesting
    l. Wildlife Habitat

California Toxic Rule

18. On May 18, 2000, the U.S. EPA published the *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California* (Federal Register, Volume 65, Number 97, 18 May 2000). These standards are generally referred to as the California Toxics Rule (CTR). The CTR specified water quality standards for numerous pollutants, of which some are applicable to the Discharger's effluent discharges.

State Implementation Policy

19. On March 2, 2000, the State Water Resources Control Board (State Board) adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bay and Estuaries of California*. This policy prescribes the plans for implementing the water quality standards in the CTR and applicable standards in the National Toxics Rule, and the Basin Plan. This policy is generally referred to as the State Implementation Policy (SIP). The SIP was subsequently adopted by the Office of Administrative Law on April 28, 2000. It became fully effective on May 18, 2000.

Basis for Effluent Limitations:

General Basis

20. **Water Quality Objectives (WQOs) and Effluent Limits:** WQOs and effluent limitations in this permit are based on the SIP; the plans, policies and water quality objectives and criteria of the 1995 Basin Plan, CTR (Federal Register Volume 65, No. 97), applicable Federal Regulations (40 CFR Parts 122 and 131), National Toxics Rule (57 FR 60848, 22 December 1992; 40 CFR Part 131.36(b), "NTR"), National

Toxics Rule Amendment (Federal Register Vol. 60, No. 86, 4 May 1995 pg. 22229-22237), and best professional judgment (BPJ) as defined in the Basin Plan. Where numeric effluent limitations have not been established in the Basin Plan, 40CFR122.44(d) specifies that water quality based effluent limits may be set based on U.S. EPA criteria and supplemented where necessary by other relevant information to attain and maintain narrative water quality criteria to fully protect designated beneficial uses and where adopted in accordance with State law.

21. **BPJ Guidance:** U.S. EPA guidance documents upon which BPJ was developed may include in part:

    - Technical Support Document for Water Quality Based Toxics Control March 1991,
    - U.S. EPA Region 9 Guidance For NPDES Permit Issuance February 1994,
    - Policy and Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria October 1, 1993,
    - Whole Effluent Toxicity (WET) Control Policy July 1994,
    - National Policy Regarding Whole Effluent Toxicity Enforcement, August 14, 1995,
    - Clarifications Regarding Flexibility in 40 CFR Part 136 Whole Effluent Toxicity (WET) Test Methods, April 10, 1996,
    - Interim Guidance for Performance - Based Reductions of NPDES Permit Monitoring Frequencies April 19, 1996,
    - U.S. EPA Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity Programs Final May 31, 1996,
    - Draft Whole Effluent Toxicity (WET) Implementation Strategy February 19, 1997.

22. **Applicable Water Quality Objectives:** The Basin Plan specifies numeric water quality objectives (WQOs) as well as a narrative objective for toxicity in order to protect beneficial uses. The narrative objective states: "All waters shall be maintained free of toxic substances in concentrations that are lethal to or produce other detrimental responses in aquatic organisms." Effluent limitations and provisions contained in this Order are designed to implement these objectives, based on available information. The CTR promulgates numeric aquatic life criteria for 23 toxic pollutants, numeric human health criteria for 57 toxic pollutants and a compliance schedule which authorizes the State to issue schedules of compliance for new or revised NPDES permit limits based on the federal criteria when certain conditions are met. This Order also includes effluent limits for pollutants listed in the latest 303(d) report as impairing the quality of waters due, in part, to municipal point source discharges.

23. **Basin Plan Salinity Policy:** The Basin Plan states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water shall be considered in determining the applicable water quality objectives. Freshwater objectives apply to discharges to waters both outside the zone of tidal influence and with salinities lower than 5 parts per thousand (ppt) at least 75 percent of the time. Saltwater objectives shall apply to discharges to waters with salinities greater than 5 ppt at least 75 percent of the time. For discharges to waters with salinities in between the two categories or tidally influenced freshwaters that support estuarine beneficial uses, the objectives shall be the lower of the salt or freshwater objectives, based on ambient hardness, for each substance.

24. **CTR Receiving Water Salinity Policy:** The CTR states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water shall be considered in determining the applicable water quality criteria. Freshwater criteria shall apply to discharges to waters with salinities equal to or less than one ppt at least 95 percent of the time. Saltwater criteria shall apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to water with salinities in between these two categories, or tidally influenced freshwaters that support estuarine beneficial uses, the criteria shall be the lower of the salt or freshwater criteria, based on ambient hardness, for each substance.

25. **Receiving Water Salinity:** The receiving waters for the discharges regulated by this Order are the waters of Central San Francisco Bay. Data from Regional Monitoring Program (RMP) for Yerba Buena Station (Station BC10) were used to determine the salinity of the receiving water. Based on the 1993 to 1999 salinity data for the above referenced station, the receiving water have salinities above 10 ppt more than 95% of the time and 5 ppt great than 75% of the time. Therefore, the receiving water is saltwater in character under both salinity definitions.

26. **Technology Based Effluent Limits:** Effluent limits for conventional pollutants are technology based. Limits in this permit are the same as in the prior permit for the following constituents: Carbonaceous Biochemical Oxygen Demand (CBOD), Total Suspended Solids (TSS), settleable matter, oil and grease, and chlorine residual. Technology-based effluent limitations are put in place to ensure that full secondary treatment is achieved by the wastewater treatment facility.

27. **Monitoring Requirements for Certain Metals:** For constituents that do not show a reasonable potential to exceed effluent limitations, this Order requires continued monitoring and an annual evaluation. If significant increases in the concentrations of the constituents are observed, the Discharger will be required to investigate the source of the increases and establish remedial measures if the increases pose a threat to water quality. A reopener provision is included in this Order that allows numeric limits to be added to this Order for any constituent that in the future exhibits reasonable potential to cause or contribute to an exceedance of a water quality standard. This determination will be made by the Board based on monitoring results.

28. The Discharger is currently investigating the possibility of incorporating wastewater flow from other existing, permitted agencies into the Discharger's facilities. The agencies currently being considered include the City of Richmond, the City of Hercules, Treasure Island, and the City of San Leandro. Other agencies may be considered in the future. In the event that other existing flows are diverted into the Discharger's system, it is expected that any mass or other allocations for those agencies would be transferred at a 1:1 ratio to the Discharger.

Specific Basis

Constituents identified in the 303(d) List

29. On May 12, 1999, the U.S. EPA approved a revised list of impaired water bodies prepared by the State. The list (hereinafter referred to as the 303(d) list) was prepared in accordance with Section 303(d) of the Federal Clean Water Act to identify specific water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources. Central San Francisco Bay is listed as an impaired water body. The pollutants impairing Central San Francisco Bay include chlordane, copper, DDT, diazinon, dieldrin, dioxin compounds, exotic species, furan compounds, mercury, PCBs, dioxin-like PCBs, and selenium.

30. In response to the listing of copper and nickel as impairing pollutants for most of the San Francisco Bay, a coalition of dischargers, including the Discharger, believes that additional monitoring data and scientific research may support the de-listing of these two pollutants in 2002. These dischargers, in conjunction with the Board and through the RMP, are gathering data towards the de-listing.

Assimilative Capacity

31. In response to the State Board's recommendation (SB Order # WQ 2001-06), staff has evaluated the assimilative capacity of the receiving water for 303(d) listed pollutants and pollutants which EBMUD has reasonable potential. The evaluation included review of RMP data (local and Central Bay stations), effluent data, and WQOs. From this evaluation, staff has found that the assimilative capacity is highly variable due to the complex hydrology of the receiving water. Therefore, there is uncertainty associated with the representiveness of the appropriate ambient background data to conclusively quantify the assimilative capacity of the receiving water. Pursuant to Section 1.4.2.1 of the SIP, "dilution credit may be limited or denied on pollutant-by-pollutant basis..." So for bioaccumulative pollutants, based on best

professional judgment, dilution credit is not included in calculating the final WQBEL. However, in calculating the WQBEL for non-bioaccumulative, it is assumed there is assimilative capacity, and a 10:1 dilution is granted.

Total maximum Daily Loads (TMDLs) and Waste Load Allocations (WLAs)

32. Based on the 303(d) list of pollutants impairing Central San Francisco Bay, the Board plans to adopt TMDLs for these pollutants no later than 2010, with the exception of dioxin and furan compounds. The Board defers development of the TMDL for dioxins and furans to the U.S. EPA. Future review of the 303(d) list for Central San Francisco Bay may result in revision of the schedule and/or provide schedules for other pollutants.

32.a The TMDLs will include WLAs and load allocations (LAs) for point sources and non-point sources, respectively, and are intended to result in the attainment of water quality standards in the water body. The final effluent limitations for the 303(d) listed pollutants in this discharge will be based on WLAs that are derived from the TMDLs.

32.b Compliance Schedule: Pursuant to Section 2.1.1 of the SIP, "the compliance schedule provisions for the development and adoption of a TMDL only apply when: ...(b) the discharger has made appropriate commitments to support and expedite the development of the TMDL. In determining appropriate commitments, the RWQCB should consider the discharge's contribution to current loadings and the discharger's ability to participate in TMDL development." The discharger has agreed to assist the Board in TMDL development. One mechanism to demonstrate the commitment maybe for the discharger to enter into agreement with the Board staff to provide specific work products to complete TMDLs.

33. The following summarizes the Board's strategy to collect water quality data to develop TMDLs:

a. Data Collection: The Board will request Dischargers to collectively assist in developing and implementing analytical techniques capable of detecting 303(d) listed pollutants to at least their respective levels of concern or water quality objectives. The Board will require Dischargers to characterize the pollutant loads from their facilities into the water quality limited water bodies. The result will be used in the development of TMDLs, but may also be used to update/revise the 303(d) list and/or change the water quality objectives for the impaired water bodies including Central San Francisco Bay.

b. Funding Mechanism: The Board has received and anticipated continuation to receive, resources from federal and state agencies for the development of TMDLs. To ensure timely development of TMDLs, the Board intends to supplement these resources by allocating development costs among Dischargers through the RMP or other appropriate funding mechanisms.

Interim Limits

34.a. If an existing discharger cannot immediately comply with a new more stringent effluent limitation, the SIP and the Basin Plan authorize a compliance schedule in the permit. To qualify for a compliance schedule, both the SIP and the Basin Plan require that the discharger demonstrate that it is infeasible to achieve immediate compliance with the new limit. The SIP and Basin Plan require that the following information be submitted to the Board to support a finding of infeasibility:

i. documentation that diligent efforts have been made to quantify pollutant levels in the discharge and sources of the pollutant in the waste stream, including the results of those efforts;
ii. documentation of source control and/or pollution minimization efforts currently under way or completed;
iii. a proposed schedule for additional or future source control measures, pollutant minimization or waste treatment; and

iv. a demonstration that the proposed schedule is as short as practicable.

34.b. On May 23, 2001, the Discharger submitted "NPDES Feasibility Analysis for Achievement of Projected Final Effluent Limits for EBMUD Main Wastewater Treatment Plant." Based on the information in this report, Board staff believes that the Discharger has fulfilled all of the above requirements and is eligible for compliance schedules for copper, cyanide, mercury, and dioxin. Furthermore, the schedules established in this Order are as short as practicable.

Reasonable Potential Analysis

35. As specified in Section 1.3 of the SIP, permits are required to include WQBELs for all pollutant discharges "which may 1) cause, 2) have the reasonable potential to cause, or 3) contribute to an excursion above any applicable priority pollutant criterion or objective." Using the method prescribed in Section 1.3 of the SIP, Board staff has analyzed the effluent data to determine if the discharges which are the subject of this Permit and Order have a reasonable potential to cause or contribute to an excursion above any applicable priority pollutant criterion or objective ("Reasonable Potential Analysis" or "RPA").

a. *Reasonable Potential Determination.* The RPA involves identifying the observed maximum effluent concentration (MEC) for each constituent based on effluent concentration data. There are two triggers in determining reasonable potential. For the first trigger, the MEC is compared with the lowest applicable WQO, which has been adjusted for pH, hardness, and translator data, if appropriate. If the MEC is greater than the (adjusted) WQO, then there is reasonable potential for that constituent to cause or contribute to an excursion above the WQO and a water-quality based effluent limitation (WQBEL) is required. The second trigger is activated if the maximum ambient concentration (B) is greater than the adjusted WQO. If B is less than the WQO, then a limit is only required under certain circumstances to protect beneficial uses. For all parameters that have reasonable potential to cause or contribute to an exceedance of a WQO, numeric water quality-based effluent limitations (WQBELs) are required. WQBELs are based on U.S. EPA water quality criteria and the Basin Plan objectives. The RPA compares the effluent data with numeric and narrative WQOs in the Basin Plan and numeric standards from the NTR, and CTR.

b. *RPA Data.* The RPA was based on effluent monitoring data from July 1997 to June 2000, except for dioxins and furans. Dioxins and furans data from August 1992 through June 2000 were used.

c. *Summary of RPA Determinations*

(1) *Reasonable Potential.* Based on the RPA, the following constituents have been found to have reasonable potential to cause or contribute to an excursion above water quality objectives: chromium, copper, lead, mercury, nickel, silver, zinc, cyanide, dioxins and furans, bis(2-ethylhexyl)phthalate, 4,4'-DDE, and Dieldrin. Based on the RPA, numeric effluent limits are required to be included in the permit for these constituents.

(2) *No Reasonable Potential.* Based on the RPA, the following constituents have been found to <u>not</u> show reasonable potential to cause or contribute to excursion above applicable water quality objectives: arsenic, cadmium, selenium, tributyltin and all the constituents under U.S. EPA methods 624, 625 and 608 with the exception of bis(2-ethylhexyl)phthalate. Based on the RPA and continued consistent plant performance, effluent limits for these constituents are not needed at this time and are not included in this permit.

d. *Specific RPA Determinations*

The WQOs, Maximum Observed Effluent Concentration and reasonable potential conclusions from the RPA are listed in the following table for each constituent analyzed. All the data are in µg/L unless otherwise specified.

Constituent	Maximum Observed Concentration, or Lowest Detection Level if not detected	Water Quality Objective	Reasonable Potential
Antimony	NA	4,300	CD
Arsenic	22	36	N
Beryllium	NA	No Objective	CD
Cadmium	1.5	9.3	N
Chromium	61	50	Y
Copper	48	3.7	Y
Lead	11	5.60	Y
Mercury	0.42	0.025	Y
Nickel	37	7.1	Y
Selenium	1.6	5	N
Silver	5.2	2.3	Y
Zinc	414	58	Y
Thallium	NA	6.3	CD
Cyanide	10	1	Y
Dioxin TEQ	6.37 pg/L	0.014 pg/L	Y
Acrolein	20	780	N
Acrylonitrile	1	0.66	N
Benzene	0.15	71	N
Bromoform	0.17	360	N
Carbon tetrachloride	0.14	4.4	N
Chlorobenzene	0.05	21,000	N
Chlorodibromomethane	0.23	34	N
Chloroethane	2.2	No Objective	CD
2-Chloroethyl vinyl ether	0.1	No Objective	CD
Chloroform	19	No Objective	CD
Dichlorobromomethane	1.4	46	N
1,1-Dichloroethane	0.07	No Objective.	CD
1,2-Dichloroethane	2.5	99	N
1,1-Dichloroetheylene	0.05	3.2	N
1,2-Dichloropropane	0.12	39	N
1,3-Dichloropropylene	0.07	1,700	N
Ethylbenzene	0.67	29,000	N
Methyl Bromide	0.69	4,000	N
Methyl Chloride	5.8	No Objective	CD
Methylene Chloride	21	1,600	N
1,1,2,2-Tetrachloroethane	0.11	11	N
Tetrachloroethene (Tetrachloroethylene)	6.8	8.85	N

Constituent	Maximum Observed Concentration, or Lowest Detection Level if not detected	Water Quality Objective	Reasonable Potential
Toluene	4.2	200,000	N
1,2-Trans-Dichloroethylene	0.14	140,000	N
1,1,1-Trichloroethane	0.47	No Objective	CD
1,1,2-Trichloroethane	0.03	42	N
Trichloroethene	2.2	81	N
Vinyl chloride	0.07	525	N
2-Chlorophenol	0.2	400	N
2,4-Dichlorophenol	0.38	790	N
2,4-Dimethylphenol	0.2	2,300	N
2-Methyl-4,6-Dinitrophenol	NA	765	CD
2,4-Dinitrophenol	1	14,000	N
2-Nitrophenol	0.1	No Objective	CD
4-Nitrophenol	2	No Objective	CD
3-Methyl 4-Chlorophenol	4.2	No Objective	CD
Pentachlorophenol	2	7.9	N
Phenol	2.2	4,600,000	N
2,4,6-Trichlorophenol	1.3	6.5	N
Acenaphthene	0.246	2,700	N
Acenaphthelene	0.062	No Objective	CD
Anthracene	0.0034	110,000	N
Benzidine	5	0.00054	DL
Benzo(a)anthracene	0.0058	0.049	N
Benzo(b)fluoranthene	0.0079	0.049	N
Benzo(k)fluoranthene	0.041	0.049	N
Benzo(g,h,i)perylene	0.012	No Objective	CD
Benzo(a)pyrene	0.0079	0.049	N
Bis(2-chloroethoxzy)methane	0.1	No Objective	CD
Bis(2-chloroethyl)ether	0.2	1.40	N
Bis(2-chloroisopropyl)ether	0.1	170,000	N
Bis(2-ethylhexyl)phthalate	83	5.9	Y
4-Bromophenylphenylether	0.1	No Objective	CD
Butylbenzylphthalate	0.21	5,200	N
2-Chloronaphthalene	0.2	4,300	N
4-Chlorophenyl phenylether	0.2	No Objective	CD
Chrysene	0.006	0.049	N
Dibenz(a,h)anthracene	0.0054	0.049	N
1,2-Dichlorobenzene	1.8	17,000	N
1,3-Dichlorobenzene	0.06	2,600	N

Constituent	Maximum Observed Concentration, or Lowest Detection Level if not detected	Water Quality Objective	Reasonable Potential
1,4-Dichlorobenzene	2.8	2,600	N
3,3-Dichlorobenzidine	0.1	0.08	DL
Diethyl phthalate	0.13	120,000	N
Dimethylphthalate	0.11	2,900,000	N
Di-n-Butyl Phthalate	0.25	12,000	N
2,4-Dinitrotoluene	0.1	9.1	N
2,6-Dinitrotoluene	0.91	No Objective	CD
Di-N-octylphthalate	0.1	No Objective	CD
1,2-Diphenylhydrazine	NA	0.54	CD
Fluoranthene	0.009	370	N
Fluorene	0.0073	14,000	N
Hexachlorobenzene	0.0018	0.00077	DL
Hexachlorobutadiene	0.12	50	N
Hexachlorocyclopentadiene	1	17,000	N
Hexachloroethane	0.4	8.9	N
Indeno(1,2,3-cd)pyrene	0.0045	0.049	N
Isophorone	0.14	600	N
Naphthalene	1.47	No Objective	CD
Nitrobenzene	0.1	1,900	N
N-Nitrosodimethylamine	0.2	8.1	N
N-Nitrosodiphenylamine	0.1	16	N
N-Nitroso-di-N-propylamine	0.1	1.4	N
Phenanthrene	0.47	No Objective	CD
Pyrene	0.0027	11,000	N
1,2,4-Trichlorobenzene	0.41	No Objective	CD
Aldrin	0.0021	0.00014	DL
A-BHC	0.0013	0.013	N
B-BHC	0.0046	0.046	N
G-BHC (Lindane)	0.04	0.063	N
D-BHC	0.004	No Objective	CD
Chlordane	0.014	0.00059	DL
4,4'-DDT	0.0021	0.00059	DL
4,4'-DDE	0.0011	0.00059	Y (B)
4,4'-DDD	0.0008	0.00084	DL
Dieldrin	0.0013	0.00014	Y (B)
Endosulfan I	0.001	0.01	N
Endosulfan II	0.0014	0.01	N
Endosulfan sulphate	0.0057	240	N

Constituent	Maximum Observed Concentration, or Lowest Detection Level if not detected	Water Quality Objective	Reasonable Potential
Endrin	0.0021	0.0023	N
Endrin Aldehyde	0.0017	0.81	N
Heptachlor	0.0029	0.00021	DL
Heptachlor Epoxide	0.005	0.00011	DL
Aroclor 1016	0.02	0.00017	DL
Aroclor 1221	0.14	0.00017	DL
Aroclor 1232	0.06	0.00017	DL
Aroclor 1242	0.02	0.00017	DL
Aroclor 1248	0.1	0.00017	DL
Aroclor 1254	0.08	0.00017	DL
Aroclor 1260	0.09	0.00017	DL
Toxaphene	0.072	0.0002	DL
Tributyltin	0.008	0.01	N

Table Definitions:

CD = Cannot determine reasonable potential due to the absence of data
DL = Detection limit above water quality objective
N = No reasonable potential
NA = Data not available
Y = Reasonable potential
Y (B) = Reasonable potential due to ambient data exceedances

e. *Reasonable Potential Analysis for Dioxin.*

(1) The CTR establishes a standard for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD) of 0.014 picograms per liter (pg/l) for the protection of human health from consumption of aquatic organisms.

(2) Although the CTR establishes a numeric standard for just one of the dioxin-like compounds, the preamble of the CTR states that California should use toxicity equivalents or TEQs in NPDES Permits where there is a reasonable potential for dioxin-like compounds to cause or contribute to a violation of a narrative criterion. The preamble further states U.S. EPA's intent to use the 1998 World Health Organization Toxicity Equivalence Factor (TEF)[1] scheme in the future and encourages California to use this scheme in State programs. Finally, the preamble states U.S. EPA's intent to adopt revised water quality criteria guidance subsequent to their health reassessment for dioxin-like compounds.

(3) The State Implementation Policy establishes the implementation policy for all toxic pollutants including dioxins and furans. The State Implementation Policy requires a limit for 2,3,7,8-TCDD if a limit is necessary, and requires monitoring for a minimum of 3 years by all major NPDES dischargers for the other sixteen dioxins and furans compounds.

[1] The 1998 WHO scheme includes TEFs for dioxin-like PCBs. But since dioxin – like PCBs are already included within "Total PCBs" for which the CTR has established a specific standard, dioxin – like PCBs are not included in the TEF scheme used in this Order.

(4) The Basin Plan specifies a narrative objective for bio-accumulative substances:

> "Many pollutants can accumulate on particulates, in sediments, or bio-accumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered."

This objective is applicable to dioxins and furans compounds. There is consensus in the scientific community that these compounds associate with particulates, accumulate in sediments, and bio-accumualte in the fatty tissue of fish and other organisms.

(5) The U.S. EPA's 303(d) listing determined that the narrative objective for bio-accumulative pollutants was not met because of the levels of dioxins and furans in the fish tissue. Discharge data shows that there are a number of dioxins and furans present in the discharge. Since dioxins and furans do not readily breakdown, there is a reasonable potential for the Discharger to contribute to the impairment (determined by the U.S. EPA) of the narrative objective.

f. *Organic Constituents with Limited Data.* Reasonable Potential cannot be determined for various organic constituents because accurate estimations are not possible for a majority of the constituents due to water quality objectives or effluent limitations that are lower than current analytical techniques can measure. These include aldrin, α-BHC, β-BHC, γ-BHC, DDT, helptachlor, heptachlorepoxide, hexachlorobenzene, PAHs, PCBs, and Toxaphene. The Discharger will continue to monitor for these constituents using analytical methods that provide the best detection limits reasonably feasible. If detection limits improve to the point where it is feasible to evaluate compliance with applicable water quality criteria, a reasonable potential analysis will be conducted to determine whether there is a need to add numeric effluent limits to the permit or to continue monitoring.

g. Based on the RP results, the effluent limitations for arsenic, cadmium, selenium, aldrin, A-BHC, B-BHC, chlordane, chloroform, DDT, endosulfan, endrin, G-BHC, halomethanes, heptachlor, heptachlor epoxide, hexachlorobenzene, PAHs, PCBs, phenol, tributyltin, and toxaphene in the previous permit are excluded in this Order as they do not pose reasonable potential to cause, or contribute to an excursion above any numeric or narrative water quality objectives.

h. *Monitoring.* For constituents that do not show a reasonable potential to cause or contribute to exceedance of applicable water quality objectives, effluent limits are not included in the permit but continued monitoring is required as identified in the self-monitoring program of the permit. If significant increases occur in the concentrations of these constituents to the extent that reasonable potential would occur, the Discharger will be required to investigate the source of the increases and establish remedial measures if the increases pose a threat to water quality.

i. *Permit Reopener.* The permit includes a reopener provision to allow numeric effluent limits to be added for any constituent that in the future exhibits reasonable potential to cause or contribute to exceedance of a water quality objective. This determination, based on monitoring results, will be made by the Board.

Copper

36. Copper:

a. Basis for Interim Limitations

(1) Both the CTR and the State Implementation Plan require a numeric interim limit when the compliance schedule exceeds one year. The State Implementation Plan allows the interim limit to be based on existing permit limitations or facility performance, which ever is more stringent. The

Plan allows for deviation from this policy if antibacksliding provisions are met. The Plan also suggests that mass limits should be established for bioaccumulative pollutants.

(2) The interim limit in this Order is based on the previous permit. Since the new final effluent limitation will be exempt from or will not trigger antibacksliding (see later Finding), this case meets anitbacksliding provisions. Thus, an interim limit based on facility performance is allowed.

b. *Interim Limits.* As copper has been determined to be an impairing pollutant on the 303(d) list, and since a RPA has determined there is reasonable potential for the discharge to contribute to a water quality exceedance, a WQBEL is required in this permit. The final WQBEL will be consistent with the wasteload allocation derived from a TMDL. In the interim, this Order establishes an interim daily maximum concentration limit of 37 µg/L. Effluent copper concentration data collected by the Discharger during the term of this permit shall be used by the Regional Board to develop a mass-emission study as part of a region-wide TMDL effort for copper.

Mercury

37. Mercury

a. *Mercury Water Quality Objectives and TMDL.* For mercury, the national chronic criterion is based on protection of human health. The criterion is intended to limit the bioaccumulation of methyl-mercury in fish and shellfish to levels that are safe for human consumption. As described in the Gold Book, the fresh water criterion is based on the Final Residual Value of 0.012 µg/L derived from the bioconcentration factor (BCF) of 81,700 for methyl mercury with the fathead minnow, which assumes that essentially all discharged mercury is methylmercury. The saltwater criterion of 0.025 µg/L was similarly derived using the BCF of 40,000 obtained for methylmercury with the eastern oyster and the criterion is listed in the 1986 Basin Plan. The CTR adopted a dissolved mercury water quality objective of 0.05 µg/L for protection of human health. However, according to Footnote b in the CTR's Table of Criteria for Priority Toxic Pollutants, "criteria apply to California water except for those waters subject to objectives in Table III-2A and III-2B of the San Francisco Regional Water Quality Control Board's (SFRWQCB) 1986 Basin Plan, that were adopted by the SFRWQCB and the State Water Resources Control Board, approved by U.S. EPA, and which continue to apply. Although ambient background concentrations are below WQOs for protection of both fresh and salt-water aquatic species, the Central San Francisco Bay is listed as impaired for mercury because of fish tissue level exceedances. These WQOs were meant to limit bioaccumulation of methyl-mercury in fish and shellfish. The Board intends to work toward the derivation of a TMDL that will lead towards overall reduction of mercury mass loadings in the watershed. Based on these studies, the final limit will be derived based on a TMDL/WLA.

b. *Mercury Strategy.* Board staff is in the process of developing a plan to address control of mercury levels in San Francisco Bay including development of a TMDL. At present, it appears that the most appropriate course of action is to apply interim mass loading limits to these discharges, and focus mercury reduction efforts on more significant and controllable sources. While site-specific objectives and Total Maximum Daily Loads (TMDLs) are being developed, the Discharger will be held accountable for maintaining ambient conditions to the receiving water by complying with performance-based mass emission limits for mercury. This permit includes interim concentration and mass emission loading limits. The Discharger is required to maximize control over influent mercury sources, with consideration of relative costs and benefits. The Discharger is encouraged to continue working with other municipal dischargers to optimize both source control and pollution prevention efforts and to assess alternatives for reducing mercury loading to, and protecting beneficial uses of, receiving waters.

c. *Effluent Concentration Limit.* This Order establishes an interim monthly average limit for mercury based on staff's analysis of the performance of over 20 secondary treatment plants in the Bay Area. This analysis is described in a Board staff report titled "Staff Report, Statistical Analysis of Pooled Data from Regionwide Ultraclean Mercury Sampling." The objective of the analysis is to provide an interim concentration limit that characterizes facility performance using only ultra-clean data and that maintains current receiving water quality. Based on Board staff's report titled "Watershed Management of Mercury in the San Francisco Bay Estuary: Total Maximum Daily Load Report to U.S. EPA," dated June 30, 2000, municipal sources are a very small contributor of the mercury load to the Bay. Because of this, it is unlikely that the TMDL will require reduction efforts beyond the source controls required by this permit or a separate 13267 letter.

d. *Mass Emission Limit.* A mass-based loading limit (mass emission limit) for mercury of 1.0 kilograms per month is established in this Order. This limit is the average value of calculated total mercury mass loading from the discharge, based on effluent data from July 1997 through June 2000. The loadings were calculated using 12-month moving average flow and average monthly concentrations. This mass limit is designed to hold the Discharger to current loadings until a TMDL is established and is intended to address anti-degradation concerns. The final effluent limit will be based on the WLA derived from the mercury TMDL. When a final WLA is approved for the Discharger, the permit may be reopened.

e. This Order contains requirements to prevent potential degradation of 303 (d)-listed water bodies. Such requirements include mass limits that are based on treatment facility performance, provisions for aggressive source control and waste minimization, feasibility studies for wastewater reclamation, and treatment facility optimization. After implementing these efforts, the Discharger may find that further net reduction of the total mass loadings of the 303(d) listed pollutants to the receiving water can be achieved through a mass offset program. This Order includes a provision for an optional mass offset program. To encourage the Discharger's ongoing efforts at reducing 303(d) listed pollutants in the interim between adoption of this permit and approval of a WLA, reductions in mercury mass loading achieved during the term of this permit shall be applicable as offsets following adoption of a WLA.

f. *Source Control and Special Studies.* This Order requires the Discharger to develop and implement a source control program if necessary to comply with the mercury concentration and mass loading limits outlined in Effluent Limitation Section. The source control program should maximize the Discharger's control over mercury sources in its influent, and should optimize costs and benefits. The source control program will also evaluate the Discharger's ability to consistently comply with concentration and mass loading limits, and to reduce any significant, controllable sources of mercury impairment of the receiving waters. The Discharger shall continue cooperating with other municipal dischargers in broader efforts to maximize mercury source control and pollution prevention efforts, assess alternatives for reducing mercury loading to receiving waters, and protect their beneficial uses. This Order may be revised after additional data are gathered on attainability, impacts on beneficial uses, mass loadings, and site-specific limits. This Order contains a time schedule for the mercury source control program.

Dioxin – Basis for Interim Limitation

38. This Order establishes that a final limit for dioxins will be based on the waste load allocated to the Discharger from the TMDL. A 10-year compliance schedule is specified with an interim limit from the previous permit of 0.14 pg/l TCDD Equivalents. A compliance schedule is warranted because it is infeasible for the Discharger to comply with a new more stringent WQBEL calculated pursuant to the SIP. This calculated WQBEL is presented in the fact sheet and is a point of reference to conduct a feasibility study for immediate compliance. Furthermore, based on

1) Board staff's report titled "*Dioxin in the Bay Environment – A review of the Environmental Concerns, Regulatory History, Current Status, and Possible Regulatory Option,*" Dated February 1998, and
2) U.S. EPA report titled "*Status of Dioxin Reassessment and Policy Response,*" 2000.

Municipal sources are a very small contributor of the dioxins and furans load to the Bay, and the dominant sources are from current and historical air emissions. Because of this, it is unlikely that the TMDL will require reduction efforts beyond the controls required by this permit. The following two findings describe the factors considered for these requirements.

39. *Regional Dioxin Problem*

a. The Board recognizes that the primary source of dioxins and furans in the Bay Area is from air emissions from combustion sources. The root cause of the dioxin detections in the Discharger's effluent are not within the Discharger's control, and the next step of treatment will be overly burdensome and not cost effective relative to the benefits. The detections are caused by dioxins and furans compounds in domestic waste and storm water. The Discharger runs a well maintained secondary treatment plant. Even with this technology, dioxin and furans concentrations cannot be further removed without significant upgrades to the facility. Based on preliminary data, the Discharger's mass contribution is minor compared to other inputs to the Bay. This cost for further reduction seems overly burdensome and not cost effective at this time.

b. The U.S. EPA's 303(d) listing highlights the need for a region wide cross media assessment of the problem. This integrated assessment should result in a more balanced, and more effective water quality based limitation for the Discharger.

c. To assist in developing the TMDL, the Discharger shall participate in a special study, through the RMP, to investigate the feasibility and reliability of different methods of increasing sample volumes to lower the detection limits for these dioxin and furan compounds. Furthermore, the Discharger shall have the preferred method approved by the U.S. EPA.

40. Basis for Compliance Timeframe and Interim Limit for Dioxin and Furans

a. This Order specifies a 10-year compliance time schedule until June 30, 2011. Both the SIP and the Basin Plan authorize compliance schedules if it is infeasible for the Discharger to meet the new WQBEL. The SIP states that the "Discharger shall be deemed out of compliance with an effluent limitation if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported ML [minimum level]." This implies that compliance will be determined at the ML when the effluent limitation is below the ML. However, there is no ML for dioxins and furans in the SIP. As a result, the discharger's compliance with the WQBEL for dioxins and furans cannot be determined at this time. In such cases, the SIP and Basin Plan allow for a compliance schedule if the discharger provides satisfactory justification. On May 23, 2001, the Discharger submitted feasibility studies to evaluate immediate compliance with the WQBELs. Based on Board staff's evaluation, the discharger satisfies the conditions under which to grant a compliance schedule.

b. The interim limitation specified in this Order is the limit from the previous permit of 0.14 pg/l TEQ. This is the only limit that can be derived in consideration of analytical quantification limits, facility performance, and the State Implementation Policy requirements as explained below.

i. An interim limitation is necessary because both the CTR and the State Implementation Policy require a numeric interim limit when the compliance schedule exceeds 1 year. The State

Implementation Policy allows for the interim limit to be based on facility performance or existing permit limitations, which ever is more stringent.

ii. Current facility performance is represented by 17 sampling events from August 1992 through April 2000. Of these data, twelve show detectable levels of various dioxin and furan compounds. Specifically, these are 2,3,7,8-TetraCDD, 2,3,7,8-TetraCDF, 1,2,3,7,8-PentaCDD, 1,2,3,7,8-PentaCDF, 2,3,4,7,8-PentaCDF, 1,2,3,6,7,8-HexaCDF, 1,2,3,7,8,9-HexaCDF, 2,3,4,6,7,8-HexaCDF, 1,2,3,4,6,7,8-HeptaCDD, 1,2,3,4,6,7,8-HeptaCDF, OctaCDD, and OctaCDF. These samples were collected in 1995 through 1997. Five samples show non-detectable levels for all 17 congeners.

iii. The twelve samples showing detectable levels were all flagged as "less than the Lower Method Calibration Limit (LMCL) and should be considered as estimated values" by the discharger's contract analytical laboratory that conducted the work.

iv. Because the concentrations detected are about 1000 times above the water quality criterion, it is reasonable to use these data to conclude that the discharge has a reasonable potential to cause or contribute to exceedance of a standard. However, these data are not sufficient to derive a performance based interim effluent limit for the following reasons:

A. All the concentrations are "estimates."

B. There are only 12 samples with measured values. This small number of samples severely compromises the power and confidence of statistical methods that would be used to characterize performance. In other words, any resulting limit may be too restrictive, or too lenient.

C. The congener profiles from the 12 samples do not match profiles from effluents of other secondary sewage treatment plants. They do not match the profiles of the discharger's sludge from 1992. They do not match the profiles of sewage influent collected by the City of Richmond. This lack of a match further contributes to uncertainty regarding the accuracy of the results.

v. Without sufficient data to calculate an appropriate performance limit, the remaining option is to retain the limit from the previous permit as an interim limit in this Order.

Bis (2-ethylhexyl) phthalate

41. Phthlates are plasticizers which are environmentally persistent, resistant to treatment processes, and prone to undergo bioaccumulation. Pursuant to Section 1.4.2.1 of the SIP, "dilution credit may be limited or denied on a pollutant-by-pollutant basis..." Given that bis (2-ethylhexyl) phthalate is bioaccumulative, based on best professional judgment, dilution credit is not included in calculating the WQBEL. Based on the Feasibility Analysis submitted by the Discharger, EBMUD cannot meet the calculated WQBEL. Therefore, an interim performance based effluent limit and a compliance schedule are included in this permit.

Cyanide

42. The CTR specifies that the salt water Criterion Chronic Concentration (CCC) of 1 µg/l for cyanide is applicable to Central San Francisco Bay. This CCC value is below the presently achievable reporting limit (ranges from approximately 3 to 5 µg/l).

43. The background data set was very limited as there was only six dissolved and six total data points which were all non detects (<1 µg/L) collected in 1993. The non-detect value (<1 µg/L) is equivalent to the WQO (1 µg/L) and causes the dilution portion of the final effluent limit equation to be eliminated,

thereby giving no dilution. The calculated WQBELs for cyanide, presented in the fact sheet, are a point of reference to conduct a feasibility study for immediate compliance. Cyanide is a regional problem associated with the analytical protocol for cyanide analysis due to matrix inferences. A body of evidence exists to show that cyanide measurements in effluent may be an artifact of the analytical method. This question is being explored in a national research study sponsored by the Water Environment Research Foundation (WERF).

44. Historically, the dischargers in the San Francisco Bay Area used Standard Methods Part 4500-CN C and Part 4500-CN I for total and weak acid dissociable cyanide measurements, respectively, in the effluent samples. From these sampling results, it appears to the Discharger that there are certain unknown constituents in the effluent that interfere with the measured results. Recently, another discharger in San Francisco Bay Area, Central Contra Costa Sanitary District (CCCSD), switched to USEPA Method OI 1677, which is a continuous-flow, amperometric method. This method is known to be free from all the interferences common to Standard Methods Part 4500-CN C and 4500-CN I. Using this method, CCCSD discovered that sulfide, sulfite, and certain other reducing substances could cause false positive cyanide results.

45. A data collection period is set for May 18, 2003, as the discharger satisfies the conditions under which to grant one. This Order contains a provision requiring the Discharger to conduct a study for data collection. The Discharger is required to fully implement the study and submit a final report to the Board by May 18, 2003. The Board intends to include, in a subsequent permit revision, a revised final limit based on the study required as an enforceable limit. However, if the discharger requests and demonstrates that it is infeasible to comply with the revised final limit, the permit revision will establish a maximum five-year compliance schedule. During the data collection period, an interim limit is included. The Board may take appropriate enforcement actions if interim limits and requirements are not met. Discharger groups have also proposed to develop cyanide site-specific objective. The calcualted WQBELs may also be revised based on the cyanide SSO.

4,4-DDE and Dieldrin

46. Regional Board staff could not determine a MEC for 4,4-DDE because it was not detected in the effluent, and all of the detection limits are higher than the lowest WQO (Sec. 1.3 of the SIP). Regional Board staff conducted the 4,4-DDE RPA by comparing the WQO with RMP ambient background concentration data gathered using research-based sample collection, concentration, and analytical methods. The RPA indicates that 4,4-DDE has reasonable potential, and a numeric WQBEL is required.

    The current 303(d) list includes the Central Bay as impaired for DDT; 4,4-DDE is chemically linked to the presence of DDT in that it is a degradation product of DDT. The Regional Board intends to develop a TMDL that will lead towards overall reduction of 4,4-DDE, and the final limit will be derived from the TMDL's WLA for 4,4-DDE. The water quality based effluent limit specified in this Order may be changed to reflect the WLAs from this TMDL. To assist the Board in developing the TMDL, the Discharger should participate in a special study, through the RMP, to investigate the feasibility and reliability of different methods of increasing sample volumes to lower the detection limits for 4,4-DDE. Furthermore, the Discharger shall have the preferred method approved by the U.S. EPA.

47. A MEC could not be determined for Dieldrin because the pollutant was not detected in the effluent, and all of the detection limits are greater than the lowest WQO. Regional Board staff conducted the Dieldrin RPA by comparing the WQO with RMP ambient background concentration data gathered using research-based sample collection, concentration, and analytical methods. The RPA indicates that Dieldrin has reasonable potential, and a numeric WQBEL is required.

    The current 303(d) list includes the Central Bay as impaired for dieldrin. The Regional Board intends to develop a TMDL that will lead towards overall reduction of Dieldrin. The water quality based effluent limit specified in this Order may be changed to reflect the WLAs from this TMDL. To assist the Board in

developing the TMDL, the Discharger should participate in a special study, through the RMP, to investigate the feasibility and reliability of different methods of increasing sample volumes to lower the detection limits for dieldrin. Furthermore, the Discharger shall have the preferred method approved by the U.S. EPA.

48. Since 4,4-DDE and Dieldrin are bioaccumulative and on the 303(d) list due to fish tissue concentration, no dilution credit was allowed in the final limit calculation (see earlier Finding).

Antibacksliding and Antidegradation

49. Compliance with Antibacksliding and Antidegradation

    a. The limitations in this Order are in compliance with the Clean Water Act Section 402(o) prohibition against establishment of less stringent water quality-based effluent limitations for the following reasons:

        (1) The revised final limitation will be in accordance with the TMDL and waste load allocation once they are established; hence, this amendment is exempt in accordance with Clean Water Act Section 303(d)(4)(A).
        (2) Antibacksliding does not apply to the interim limitations established under the time to come into compliance provision.
        (3) Even if the antibacksliding and antidegradation policies apply to interim limitations under 402(o)(2)(c), a less stringent limitation is necessary because of events over which the Discharger has no control and for which there is no reasonable available remedy.

    b. The interim limits in this permit are in compliance with antidegradation because the interim limits hold the Discharger to current facility performance, because the interim limits meet compliance limits in the State Implementation Policy, and because the final limit is in compliance with anti-degradation requirements.

Whole Effluent Acute Toxicity

50. This Order includes effluent limits for whole-effluent acute toxicity. Currently, compliance evaluation is based on 96-hour flow-through bioassays. U.S. EPA promulgated updated test methods for acute toxicity bioassays on October 16, 1995, in 40 CFR Part 136. Dischargers have identified several practical and technical issues that need to be resolved before implementing the new procedures. The primary issue is that the use of younger, possibly more sensitive, fish may necessitate a reevaluation of permit limits. A provision is included in this Order to allow the Discharger eighteen months to implement the new test method. In the interim, the Discharger is required to continue using the current test protocols.

Variance from 85% Removal Limit for Carbonaceous BOD (CBOD) and Total Suspended Solids (TSS)

51. 40 CFR 133.103(d) authorizes the Board to substitute a lower percent removal requirement for CBOD and TSS, for facilities with less concentrated influent wastewater, provided the following three conditions are met:

    a. The treatment works is consistently meeting, or will consistently meet, its permit effluent concentration limits but its percent removal requirements cannot be met due to less concentrated influent wastewater,

    b. To meet the percent removal requirements, the treatment works would have to achieve significantly more stringent limitations than would otherwise be required by the concentration-based standards,

    c. The less concentrated influent wastewater is not the result of excessive inflow and infiltration (I/I).

"Nonexcessive infiltration" is defined by 40 CFR 35.2005(b)(28) as "the quantity of flow which is less than 120 gallons per capital per day (domestic base flow and infiltration) **or** the quantity of infiltration which cannot be economically and effectively eliminated from a sewer system as determined in a cost-effectiveness analysis.
"Nonexcessive inflow" is defined by 40 CFR 35.2005(b)(29) as "the maximum total flow rate during a storm event which does not result in chronic operational problems related to hydraulic overloading of the treatment works **or** which does not result in a total flow of more than 275 gallons per capita per day (domestic base flow plus infiltration plus inflow).

U.S. EPA further clarified the definition of nonexcessive I/I in January and March 2001, letters to various members of Congress which states "the determination of whether the less concentrated wastewater is the result of excessive I/I will use the definition of excessive I/I in 40 CFR 35.2005(b)(16) plus the additional criterion that inflow is nonexcessive if the total flow to the POTW (i.e., wastewater plus inflow plus infiltration) is less than 275 gallons per capita per day. The 275 gallons per capita per day figure is only a threshold value, and permittees may determine that even higher values of I/I are nonexcessive through a cost-effective evaluation on a case-by-case sewer system basis. Guidance for the cost-effectiveness analysis associated with demonstrating that I/I is not excessive is provided in *Sewer System Infrastructure Analysis and Rehabilitation*, (EPA, 1991, EPA/625/6-91/030)."

52. Based on the past three years of plant operational data, the Discharger has consistently met its permit effluent concentration limits. However, the Discharger has difficulty meeting its 85% percent removal requirement for CBOD and TSS during wet weather conditions due to less concentrated influent wastewater. In order to consistently meet the 85 percent removal requirements, the Discharger would have to increase its treatment level to a tertiary treatment system. A tertiary treatment system would require the Discharger to achieve significantly more stringent limitation than would otherwise be required by the concentration based standards.

53. In 1986, the Discharger and the seven communities in its district initiated Sewer System Evaluation Surveys (SSEs). Concurrently, the Discharger prepared wet weather facilities plans to evaluate alternative options to remove excessive I/I. A cost effective analysis was conducted as part of these plans. These plans concluded that the current treatment configuration is the most cost-effective option. This treatment configuration includes an I/I reduction program that will reduce peak flow from 1.1 billion gallons per day to 760 millions per day, and meets the requirement of U.S. EPA's "Sewer System Infrastructure Analysis and Rehabilitation Handbook" *(EPA, 1991, EPA/625/6-91/030)*.

54. Based on the past six years of data, the maximum total flow into the Discharger's treatment during storm event has not resulted in chronic operational problems related to hydraulic overloading of the treatment works.

55. Based on Finding 52 through 54, the Discharger meets the criteria established in Finding 51. Therefore, an alternative percent removal limit can be established for the Discharger.

56. This Order establishes an alternate 70% removal requirement when the plant influent is at or above 120 MGD. This removal requirement is based on past 6 years of plant performance.

Whole Effluent Chronic Toxicity

57. Chronic Toxicity
    a. *Program History.* The Basin Plan contains a narrative toxicity objective stating that "all waters shall be maintained free of toxic substances in concentrations that are lethal to or produce other detrimental responses to aquatic organisms" and that "there shall be no chronic toxicity in ambient waters." In 1986, the Board initiated the Effluent Toxicity Characterization Program (ETCP), with the goal of developing and implementing toxicity limits for each Discharger based on actual characteristics of

both receiving waters and waste streams. Dischargers were required to monitor their effluent using critical life stage toxicity tests to generate information on toxicity test species sensitivity and effluent variability to allow development of appropriate chronic toxicity effluent limitations. Two rounds of effluent characterization were conducted by selected dischargers beginning in 1988 and in 1991. A second round was completed in 1995, and the Board is evaluating the need for a third round. Board guidelines for conducting toxicity tests and analyzing results were published in 1988 and last updated in 1991. The Discharger participated in the ETCP.

The Board adopted Order No. 92-104 in August 1992 amending the permits of eight dischargers to include numeric chronic toxicity limits. However, due to the court decision which invalidated the California Enclosed Bays and Estuaries Plan and Inland Surface Waters Plan, on which Order No. 92-104 was based, the SWRCB stated, by letter dated November 8, 1993, that the Board will have to reconsider the order. This letter also committed to providing the regional boards with guidance on issuing permits in the absence of the State Plans (*Guidance for NPDES Permit Issuance,* February 1994).

b. *SWRCB Toxicity Task Force Recommendations.* The SWRCB Toxicity Task Force provided several consensus-based recommendations in their October 1995 report to the SWRCB for consideration redrafting the State Plans. A key recommendation was that permits should include narrative rather than numeric limits. The numeric test values should then be used as toxicity "triggers" to first accelerate monitoring and then initiate Toxicity Reduction Evaluations (TREs).

c. *Regional Board Program Update.* The Board intends to reconsider Order No. 92-104 as directed by the SWRCB, and to update, as appropriate, the Board's Whole Effluent Toxicity (chronic and acute) program guidance and requirements. This will be done based on analysis of the Discharger's routine monitoring and ETCP results, and in accordance with current U.S. EPA and SWRCB guidance. In the interim, decisions regarding the need for and scope of chronic toxicity requirements for individual dischargers will continue to be made based on BPJ as indicated in the Basin Plan.

d. *Discharge Monitoring.* The Discharger participated in the second round of ETCP screening and variability testing in 1991-1993. During the course of ETCP monitoring, the Discharger did detect a pattern of acute and chronic toxicity. This permit requires the Discharger to continue routine chronic toxicity monitoring using critical life stage tests.

e. *Permit Requirements.* In accordance with U.S. EPA and SWRCB Task Force guidance, and based on BPJ, this Permit includes requirements for chronic toxicity monitoring based on the Basin Plan narrative toxicity objective. This Permit includes the Basin Plan narrative toxicity objective as the applicable effluent limit, implemented via monitoring with numeric values as "triggers" to initiate accelerated monitoring and to initiate a chronic TRE as necessary.

f. *Permit Reopener.* The Board will consider amending this Permit to include numeric toxicity limits if the Discharger fails to aggressively implement all reasonable control measures included in its approved TRE work plan, following detection of consistent significant non-artificial toxicity.

Pretreatment Program

58. The Discharger has implemented and is maintaining a U.S. EPA approved pretreatment program in accordance with Federal Pretreatment Regulations (40 CFR 403) and the requirements specified in Attachment F "Pretreatment Requirements".

Pollutant Minimization/Pollution Prevention

59. Pollution Prevention Program:

    a. The Discharger has an approved Pretreatment Program and has established a Pollution Prevention Program under the requirements specified by the Regional Board.
    b. The Discharger's Pretreatment and Pollution Prevention Programs have resulted in a significant reduction of toxic pollutants discharged to the treatment plant and to the receiving waters.
    c. This reduction is reflected in its influent and effluent data.
    d. Section 2.4.5 of the SIP specifies under what situations and on which priority pollutant(s) (i.e., reportable priority pollutant(s)) the Discharger shall be required to conduct a Pollutant Minimization Program in accordance with Section 2.4.5.1.
    e. There will be some redundancy between the Pollution Prevention Program and the Pollutant Minimization Program, if required.
    f. To the extent where the requirements of the two programs overlap, the Discharger is allowed to continue/modify/expand its existing Pollution Prevention Program to satisfy the Pollutant Minimization Program requirements.

60. The Board staff intends to require an objective third party to establish baseline programs, and to review program proposals and reports for adequacy.

61. For bis(ethylhexyl)phthalate, copper, mercury, cyanide, and dioxin/furans, the Discharger will conduct any additional source control or pollutant minimization measures in accordance with California Water Code 13263.3 and Section 2.1 of the SIP. Section 13263.3 establishes a separate process outside of the NPDES permit process for preparation, review, approval, and implementation of such source control and pollutant minimization measures.

62. **An Operations and Maintenance Manual** is maintained by the Dischargers for purposes of providing plant and regulatory personnel with a source of information describing all key equipment, recommended operation strategies, process control monitoring, and maintenance activities. In order to remain a useful and relevant document, the manual shall be kept updated to reflect significant changes in treatment facility equipment and operation practices.

63. **Ambient Water Quality Monitoring** Ambient background data is required according to the SIP in order to complete the RP analysis and to determine final effluent limits, where applicable. Dischargers are required to investigate alternative analytical procedures that result in lower detection limits. This may occur either through participation in new RMP special studies or through equivalent studies conducted jointly with other dischargers.

Notification

64. The adoption of waste discharge requirements is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code [California Environmental Quality Act (CEQA)] pursuant to Section 13389 of the California Water Code.

65. The Board notified the Discharger and interested agencies and persons of its intent to reissue waste discharge requirements for the discharge, and has provided them with an opportunity for a public hearing and to submit their written views and recommendations.

66. The Board, in a public hearing, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the Discharger, in order to meet the provisions of Division 7 of the California Water Code and regulations adopted there under, and the provisions of the Clean Water Act and regulations and guidelines adopted there under, shall comply with the following:

PROHIBITIONS

A. Prohibitions:

1. The discharge of treated wastewater at locations or in a manner different from that described in the Findings of this Order is prohibited, except as noted in Prohibition A.4.

2. The Discharge of average dry weather flow discharge greater than 120 MGD is prohibited. The average dry weather flow shall be determined over three consecutive dry weather months each year.

3. Discharge of wastewater into Central San Francisco Bay, at any point where it does not receive an initial dilution of at least 10:1 is prohibited.

4. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the treatment plant or from the collection system or pump stations tributary to the treatment plant, is prohibited, except as provided for bypasses under the conditions stated in 40 CFR 122.41(m)(4) and (n) and as allowed under Board Order 98-005, NPDES Permit No. CA 0038440). However, the process of blending flow from individual treatment processes, for example during period of high wet weather flow, is allowable provided that the combined discharge, comprising a mixture of fully treated and partially treated wastewater, complies with the effluent and receiving water limitations contained in this Order.

5. Discharge of water, materials, or wastes other than stormwater, which are not otherwise authorized by an NPDES permit, to a storm drain system or water of the State is prohibited.

EFFLUENT LIMITATIONS

B. Effluent Limitations:

The term effluent in the following limitations means the treated wastewater effluent from the Discharger's wastewater treatment facility, as discharged to receiving waters.

1. Effluent discharged to the outfall shall not exceed the following limits:

Constituent		Units	Monthly Average	Weekly Average	Daily Maximum[2]	Instantaneous Maximum
a.	Carbonaceous BOD (CBOD5)	mg/L	25	40		
b.	Total Suspended Solids (TSS)	mg/L	30	45		
d.	Oil & Grease	mg/L	10		20	
e.	Settleable Matter	ml/l-hr	0.1		0.2	
f.	Total Chlorine Residual [3]	mg/L				0.0

2. **85% Percent Removal, CBOD and TSS:**

When plant influent flow is below 120 MGD: The arithmetic mean of the carbonaceous biochemical oxygen demand ($CBOD_5$ 20°C) and total suspended solids (TSS) values, by weight, for effluent samples collected in each calendar month, except the samples collected when influent flow is greater than or equal to 120 MGD, shall not exceed 15 percent of the arithmetic mean of the

[2] Daily maximum as defined in Part A of the attached Self-Monitoring Program.

[3] Requirement defined as below the limit of detection in standard test methods as defined in the latest edition of Standard Methods for the Examination of Water and Wastewater. The Discharger may elect to use a continuous on-line monitoring system(s) for measuring flows, chlorine and sodium bisulfite dosage (including a safety factor) and concentration to prove that chlorine residual exceedances are false positives. If convincing evidence is provided, Board staff will conclude that these false positive chlorine residual exceedances are not violations of this permit limit.

respective values, by weight, for influent samples collected at approximately the same times during the same period.

When Plant influent flow is greater or equal to 120 MGD: The arithmetic mean of the carbonaceous biochemical oxygen demand ($CBOD_5$ 20°C) and total suspended solids (TSS) values, by weight, for effluent samples collected in the given period shall not exceed 30 percent of the arithmetic mean of the respective values, by weight, for influent samples collected at approximately the same times during the same period.

3. **Fecal Coliform Bacteria:** The treated wastewater, at some point in the treatment process prior to discharge, shall meet the following limits of bacteriological quality[4]:

   a. The five day log mean fecal coliform density shall not exceed 500 MPN/100ml; and

   b. 90th percentile value of all samples in a given month shall not exceed 1,100 MPN/100 mL.

4. **pH:** The pH of the effluent shall not be less than 6.0 nor greater than 9.0.

   Pursuant to 40 CFR 401.7, pH effluent limitations under continuous monitoring, the Discharger shall be in compliance with the pH limitation specified herein, provided that both of the following conditions are satisfied: (i) The total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (ii) No individual excursion from the range of pH values shall exceed 60 minutes.

5. **Whole Effluent Acute Toxicity:** Representative samples of the effluent shall meet the following limits for acute toxicity. Compliance with these limits shall be achieved in accordance with Provision F.5 of this Order.

   a. The survival of bioassay test organisms in 96-hour bioassays of undiluted effluent shall be:
      (1) An 11-sample median value of not less than 90 percent survival; and
      (2) An 11-sample 90th percentile value of not less than 70 percent survival.

   b. Definition for Acute Toxicity Limit:
      (1) 11-sample median limit: Any bioassay test showing survival of 90 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit, if five or more of the past ten or fewer bioassay tests also show les than 90 percent survival.
      (2) 90th percentile limit: Any bioassay test showing survival of 70 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit, if one or more of the past ten or fewer bioassay tests also shows less than 70 percent survival.

6. **Chronic Toxicity:**

   a. Definition: Compliance with the Basin Plan narrative chronic toxicity objective shall be demonstrated according to the following tiered requirements based on results from representative samples of the treated final effluent meeting test acceptability criteria:

      (1) routine monitoring;

[4] Basin Plan Table 4-2 and its footnotes allow fecal coliform limitations to be substituted for total coliform limitations provided that the Discharger demonstrates that there is no unacceptable adverse impact on the beneficial uses of the receiving waters.

(2) accelerated monitoring to twice each month after exceeding a 3-sample sample median value of 10 chronic toxicity[5] (TUc) or a 3 sample maximum of 20 TUc or greater. Accelerated monitoring shall consist of monitoring at frequency intervals of one half the interval given for routine monitoring in the SMP of this Order;
(3) return to routine monitoring if accelerated monitoring does not exceed either "trigger" in "2", above;
(4) initiate approved toxicity identification evaluation/toxicity reduction evaluation (TIE/TRE) work plan if accelerated monitoring confirms consistent toxicity above either "trigger" in "2", above;
(5) return to routine monitoring after appropriate elements of TRE work plan are implemented and either the toxicity drops below "trigger" level in "2", above or, based on the results of the TRE, the Executive Officer authorizes a return to routine monitoring.

b. Test Species and Methods

The Discharger shall conduct routine monitoring with the species approved by the Executive Officer. At the time of this permit adoption, the approved species is *mytilus sp.* Bioassays shall be conducted in compliance with approved protocol referenced elsewhere in this Order, with exceptions granted the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program.

c. Compliance: The Discharger shall be considered in compliance unless the Discharger fails to use the approved test species and methods, or to comply with accelerated monitoring and TRE/TIE requirements, or to submit required reports.

C. Limitations on Priority Pollutants:

1. **Mercury- Mass Emission Limit**: Until TMDL and Waste Load Allocation (WLA) efforts for mercury provide enough information to establish a different WQBEL, the Discharger shall demonstrate that the total mercury mass loading from the discharge to Central San Francisco Bay has not increased by complying with the following:

a. Mass Emission Limit: The mass emission limit for mercury is 1.0 kilograms per month (kg/month). The total mercury mass load shall not exceed this limit. The Board will take into account the occurrence of extended extreme wet weather flow conditions when evaluating enforcement actions for exceedance of these limits.

b. Compliance with this limit shall be evaluated using running annual average mass load. Running annual averages shall be calculated by taking the arithmetic average of the current monthly mass loading value (see sample calculation below) and the previous 11-month's values. Sample calculation:

Flow (mgd) = Average of monthly plant effluent flows in mgd.

Constituent Concentration (µg/L) = Average of monthly effluent concentration measurements in µg/L. If more than one measurement is obtained in a calendar month, the average of these

[5] A TUc equals 100 divided by the no observable effect level (NOEL). The NOEL is determined from IC, EC, or NOEC values. Monitoring and TRE requirements may be modified by the Executive Officer in response to the degree of toxicity detected in the effluent or in ambient waters related to the discharge. Failure to conduct the required toxicity tests or a TRE within a designated period shall result in the establishment of effluent limitations for chronic toxicity.

measurements is used as the monthly value for that month. If test results are less than the method detection limit used, the measurement value is assumed to be equal to the method detection limit.

Mass Loading (kg/month) = (Flow) x (Constituent Concentration) x (0.1151).

These mass emission limit will be superseded upon completion of a TMDL and WLA. According to the antibacksliding rule in the Clean Water Act, Section 402(o), the permit may be modified to include a less stringent requirement following completion of a TMDL and WLA.

2. **Toxic Substances**: The effluent shall not exceed the following limits (1) (7):

Constituent	Daily Maximum	Monthly Average	Interim Daily Maximum	Interim Monthly Average	*Units*	Notes
a. Chromium VI	110				µg/L	(3)
b. Copper			37		µg/L	(1)(8)
c. Lead	53	37			µg/L	(1)
d. Mercury				87	ng/L	(1)(2)(6)
e. Nickel	59	34			µg/L	(1)
f. Cyanide			10		µg/L	(1)(5)
g. Silver	23	12			µg/L	(1)
h. Zinc	589	460			µg/L	(1)
i. Bis (2-ethylhexyl) phthalate				102	µg/L	(1)(10)
j. 4,4-DDE	1.2	0.59			ng/L	(1)
k. Dieldrin	0.28	0.14			ng/L	(1)
l. TCDD Equivalent				0.14	pg/L	(4)(6)(9)

Footnotes:

(1) (a) Compliance with these limits is intended to be achieved through secondary treatment and, as necessary, pretreatment and source control.

(b) All analyses shall be performed using current U.S. EPA methods, or equivalent methods approved in writing by the Executive Officer.

(c) Limits apply to the average concentration of all samples collected during the averaging period (Daily = 24-hour period; Monthly = calendar month).

(2) Mercury: The monthly average interim limit shall apply to the discharge until a TMDL and WLA for mercury are completed. Effluent mercury monitoring shall be performed by using ultra-clean sampling and analysis techniques to the maximum extent practicable, with method detection limit of 0.002 µg/L, or lower.

(3) Discharger may at their option meet this limit as total chromium.

(4) **TCDD Equivalents** shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity equivalence factors (TEFs), as shown in the table below. (Note: These TEFs may be revised if new or updated information is available, and revision is considered appropriate.)

Isomer Group	Toxicity Equivalence Factor
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	1.0
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.0001
2,3,7,8-tetra CDF	0.1
1,2,3,7,8-penta CDF	0.05
2,3,4,7,8-penta CDF	0.5
2,3,7,8-hexa CDFs	0.1
2,3,7,8-hepta CDFs	0.01
octa CDF	0.0001

(5) This interim limit shall remain in effect until than May 18, 2003, or until the Board amends the limit based on additional background data or site specific objectives for cyanide. However, during the next permit reissuance, Board staff may re-evaluate the interim limits.

(6) This interim limit shall remain in effect until June 30, 2011, for dioxins, and May 18, 2010, for mercury, or until the Board amends the limits based on the Waste Load Allocations in the TMDL for mercury, and the TMDL for dioxins and furans. However, during the next permit reissuance, Board staff may re-evaluate the interim limits.

(7) A daily maximum or monthly average value for a given constituent shall be considered non-compliant with the effluent limits only if it exceeds the effluent limitation and the reported ML for that constituent.

(8) This interim limit shall remain in effect until June 30, 2006, or until the Board amends the limit based on site specific objectives or the Waste Load Allocation in the TMDL for copper. However, during the next permit reissuance, Board staff may re-evaluate the interim limits.

(9) Compliance with this limit shall be based on analytical result without any data qualifiers. If improved laboratory practices or improved analytical methods result in lower detection limits, this permit may be reopened to reconsider the feasibility of compliance with the interim limit. In this case, the data from these improved methods will be used to determine a more appropriate interim limit based on performance.

(10) This interim limit shall remain in effect until June 30, 2006. However, during the next permit reissuance, Board staff may re-evaluate the interim limits.

RECEIVING WATER LIMITATIONS

D. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

   a. Floating, suspended, or deposited macroscopic particulate matter or foam;

   b. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;

   c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

d. Visible, floating, suspended, or deposited oil or other products or petroleum origin; and

e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause exceedance of the narrative toxicity objective contained in the Basin Plan.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State at any place within one foot of the water surface:

a. Dissolved Oxygen: 5.0 mg/L, minimum

The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, then the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.

b. Dissolved Sulfide: 0.1 mg/L, Maximum

c. pH: Variation from normal ambient pH by more than 0.5 pH units

d. Un-ionized Ammonia: 0.025 mg/L as N, annual median; and
0.16 mg/L as N, maximum

e. Nutrients: Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

3. The discharge shall not cause a violation of any particular water quality standard for receiving waters adopted by the Board or the State Board as required by the Clean Water Act and regulations adopted there under. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

SLUDGE MANAGEMENT PRACTICES

E. Sludge Management Practices

1. All sludge treatment, processing, storage or disposal activities under the Discharger's control shall be in compliance with current state and federal regulations.

2. Sludge from this facility is treated by gravity thickening, anaerobic digestion and dewatering using centrifuges.

3. Final biosolids disposal is by beneficial reuse or landfill.

4. The Discharger is required to submit an annual report to the U.S. EPA regarding its sewage sludge disposal practices in accordance with the requirements of 40 CFR 503. The Discharger shall include a summary of this information in the Self Monitoring Program Annual Report submitted to the Board.

5. Sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.

6. The treatment and temporary storage of sewage sludge at the Discharger's wastewater treatment facility shall not cause waste material to be in a position where it will be carried from the sludge treatment and storage site and deposited in the Waters of the State.

7. The Board may amend this permit prior to expiration if changes occur in applicable state and federal sludge regulations.

PROVISIONS

F. Provisions

1. **Permit Compliance:** The Discharger shall comply with all section of this Order starting July 1, 2001.

2. **Permit Rescission:** Requirements prescribed by this Order superseded the requirements prescribed by Order Nos. 94-127 and 97-142. Order Nos. 94-127 and 97-142 are hereby rescinded upon the effective date of this Order.

3. **Self-Monitoring Program:** The Discharger shall comply with the Self-Monitoring Program (SMP, Attachment C) for this Order as adopted by the Board. Self-Monitoring Reports (SMRs) shall be received by the Board no later than 30 days after the end of the reporting month. An Annual Report shall also be submitted for each calendar year. The report shall be submitted to the Board by February 15 of the following year.

4. **Standard Provisions and Reporting Requirements:** The Discharger shall comply with all applicable items of *Standard Provisions and Reporting Requirements for NPDES Surface Water Discharger Permits*, August 1993 (Attachment D), or any amendments thereafter. Where provisions or reporting requirements specified in this Order are different from equivalent or related provisions or reporting requirements given in "Standard Provisions," the specification of this Order shall apply.

5. **Acute Toxicity Compliance:** Compliance with acute toxicity requirements of this Order shall be achieved in accordance with the following:

   a. From permit adoption date to December 31, 2002:
      (1) All bioassays shall be performed according to the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms," 3rd Edition, with exceptions granted to the Discharger by the Executive Officer and the Environmental laboratory Accreditation Program (ELAP).
      (2) Compliance with the acute toxicity effluent limits of this Order shall be evaluated by measuring survival of test organisms exposed to 96-hour continuous flow-through bioassays.
      (3) Test organisms shall be fathead minnows and three-spined sticklebacks unless specified otherwise in writing by the Executive Officer.

   b. From January 1, 2003 on:
      (1) All bioassays shall be performed according to the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms,"4th Edition, with exceptions granted to the Discharger by the Executive Officer and the Environmental laboratory Accreditation Program (ELAP).
      (2) Compliance with the acute toxicity effluent limits of this Order shall be evaluated by measuring survival of test organisms exposed to 96-hour continuous flow-through bioassays, or static renewal bioassays. If the Discharger will use static renewal tests or continue to use 3rd edition methods, they must submit a technical report by December 1, 2002, identifying the reasons why flow-through and/or static renewal bioassay is not feasible using the approved EPA protocol (4th edition).

(3) Test organisms shall be fathead minnows or rainbow trout unless specified otherwise in writing by the Executive Officer.

6. **Whole Effluent Chronic Toxicity Requirements:** TRE for Chronic Toxicity

When there is a consistent exceedance of either of the chronic toxicity monitoring triggers in the screening and variability phases, the discharger shall implement a TRE in accordance with a TRE work plan acceptable to the Executive Officer. The TRE shall be conducted in accordance with the following:

a. The discharger shall prepare and submit to the Board for Executive Officer approval a TRE work plan. An initial generic work plan shall be submitted within 60 days of the date of adoption of this Order. The work plan shall be reviewed and updated as necessary in order to remain current and applicable to the discharge and discharge facilities.
b. The TRE shall be initiated within 30 days of the date of completion of the accelerated monitoring test observed to exceed either evaluation parameter.
c. The TRE shall be conducted in accordance with an approved work plan.
d. The TRE needs to be specific to the discharge and discharger facility, and be in accordance with current technical guidance and reference materials including US EPA guidance materials. TRE shall be conducted as a tiered evaluation process, such as summarized below:
    (1) Tier 1 consists of basic data collection (routine and accelerated monitoring).
    (2) Tier 2 consists of evaluation of optimization of the treatment process including operation practices, and in-plant process chemicals.
    (3) Tier 3 consists of a toxicity identification evaluation (TIE).
    (4) Tier 4 consists of evaluation of options for additional effluent treatment processes.
    (5) Tier 5 consists of evaluation of options for modifications of in-plant treatment processes.
    (6) Tier 6 consists of implementation of selected toxicity control measures, and follow-up monitoring and confirmation of implementation success.
e. The TRE may be ended at any stage if monitoring finds there is no longer consistent toxicity.
f. The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity. All reasonable efforts using currently available TIE methodologies shall be employed.
g. As toxic substances are identified or characterized, the discharger shall continue the TRE by determining the source(s) and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with chronic toxicity evaluation parameters.
h. Many recommended TRE elements parallel required or recommended efforts of source control, pollution prevention and storm water control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements or recommended efforts of such programs may be acceptable to comply with TRE requirements.
i. The Board recognizes that chronic toxicity may be episodic and identification of causes of and reduction of sources of chronic toxicity may not be successful in all cases. Consideration of enforcement action by the Board will be based in part on the discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.

7. **Screening Phase for Chronic Toxicity**

The Discharger shall conduct screening phase compliance monitoring as described in the Self-Monitoring Program under either of these two conditions:

a. Subsequent to any significant change in the nature of the effluent discharged through changes in sources or treatment, except those changes resulting from reductions in pollutant concentrations attributable to pretreatment, source control, and waste minimization efforts; or

b. Prior to Permit reissuance, except when the Discharger is conducting a TRE/TIE. Screening phase monitoring data shall be included in the application for Permit reissuance. The information shall be as recent as possible, but may be based on screening phase monitoring conducted within five years before the Permit expiration date.

The Discharger shall conduct screening phase compliance monitoring in accordance with a proposal submitted to, and acceptable to, the Executive Officer. The proposal shall contain, at a minimum, the elements specified in Part B of the Self-Monitoring Program of this Order, or alternatives as approved by the Executive Officer. The purpose of the screening is to determine the most sensitive test species for subsequent routine compliance monitoring for chronic toxicity.

8. **Optional Copper And Nickel Translator Study and Schedule:** In order to develop information that may be used to establish a water quality based effluent limit based on dissolved copper and/or nickel criteria, the Discharger may utilize RMP data from stations nearest the Discharger's outfall and/or implement a sampling plan to collect data for development of a dissolved to total copper and/or nickel translator. If the Discharger chooses to proceed with the study, this work shall be performed in accordance with the following tasks:

   a. Translator Study Plan.
   The Discharger shall submit a study plan, acceptable to the Executive Officer, for collection of data that can be used for establishment of a dissolved to total copper and/or nickel translator. After Executive Officer approval or within 60 days of submission of the Study Plan, the Discharger shall begin implementing the study plan. The study plan shall provide for development of translators in accordance with U.S. EPA guidelines and any relevant portions of the Basin Plan, as amended.

   b. Translator Final Report
   The Discharger shall conduct the translator study by utilizing field sampling data approximate to the discharge point and in the vicinity of the discharge point and shall submit a report, acceptable to the Executive Officer, documenting the results of the copper and/or nickel translator study, which may also include any other site specific information that the Discharger would like the Board to consider in development of a water quality based effluent limitation for copper.

   If the discharger chooses to conduct the copper translator study, the study shall be completed 2 years from the adoption of the Order.

9. **Optional Mass Offset:** If the Discharger wishes to pursue a mass offset program, a mass offset plan for reducing 303(d) listed pollutants to the same watershed or drainage basin needs to be submitted for Board approval. The Board will consider any proposed mass offset plan and amend this Order accordingly.

10. **Regional Monitoring Program:** The Discharger shall continue to participate in the Regional Monitoring Program (RMP) for trace substances in San Francisco Bay in lieu of more extensive effluent and receiving water self-monitoring requirements that may be imposed.

11. **Pretreatment Program:** The Discharger shall implement and enforce its approved pretreatment program in accordance with Federal Pretreatment Regulations (40 CFR 403), pretreatment standards promulgated under Section 307(b), 307(c), and 307(d) of the Clean Water Act, and the requirements in Attachment F "Pretreatment Requirements". The Discharger's responsibilities include, but are not limited to:

    a. Enforcement of National Pretreatment Standards in accordance with 40 CFR 403.5 and 403.6;

b. Implementation of its pretreatment program in accordance with legal authorities, policies, procedures and financial provisions described in the General Pretreatment regulations (40 CFR 403) and the Discharger's approved pretreatment program;

c. Submission of reports to U.S. EPA, the State Board and the Board as described in Attachment F "Pretreatment Requirements" and its amendments or revisions thereafter.

The Discharger shall implement its approved pretreatment program and the program shall be an enforceable condition of this permit. If the Discharger fails to perform the pretreatment functions, the Regional Water Quality Control Board (RWQCB), the State Water Resources Control Board (SWRCB), or U.S. Environmental Protection Agency (U.S. EPA) may take enforcement actions against the Discharger as authorized by the Clean Water Act.

12. **Pollutant minimization/Pollution Prevention**

a. The Discharger shall continue to improve its existing Pollution Prevention Program in order to reduce pollutant loadings to the treatment plant and therefore to the receiving waters.

b. The Discharger shall submit an annual report, acceptable to the Executive Officer, no later than February 28th of each calendar year. For annual reports due February 28th, annual reports shall cover January through December of the preceding year.

Annual report shall include at least the following information:

(1) A brief description of its treatment plant, treatment plant processes and service area.
(2) A discussion of the current pollutants of concern. Periodically, the Discharger shall analyze its own situation to determine which pollutants are currently a problem and/or which pollutants may be potential future problems. This discussion shall include the reasons why the pollutants were chosen.
(3) *Identification of sources for the pollutants of concern.* This discussion shall include how the Discharger intends to estimate and identify sources of the pollutants. The Discharger shall also identify sources or potential sources not directly within the ability or authority of the Discharger to control such as pollutants in the potable water supply and air deposition.
(4) *Identification of tasks to reduce the sources of the pollutants of concern.* This discussion shall identify and prioritize tasks to address the Discharger's pollutants of concern. Tasks can target its industrial, commercial, or residential sectors. The Discharger may implement tasks themselves or participate in group, regional, or national tasks that will address its pollutants of concern. The Discharger is strongly encouraged to participate in group, regional, or national tasks that will address its pollutants of concern whenever it is efficient and appropriate to do so. A time line shall be included for the implementation of each task.
(5) *Continuation of outreach tasks for Discharger's employees.* The Discharger shall continue outreach tasks for City and/or District employees. The overall goal of this task is to inform employees about the pollutants of concerns, potential sources, and how they might be able to help reduce the discharge of pollutants of concerns into the treatment plant. The Discharger may provide a forum for employees to provide input to the Program.
(6) *Continuation of a public outreach program.* The Discharger shall continue its public outreach program to communicate pollution prevention to its service area. Outreach may include participation in existing community events such as county fairs, initiating new community events such as displays and contests during Pollution Prevention Week, conducting school outreach program, conducting plant tours, and providing public information in newspaper articles or advertisements, radio, television stories or spots,

newsletters, utility bill inserts, and web site. Information shall be specific to the target audiences. The Discharger shall coordinate with other agencies as appropriate.

(7) *Discussion of criteria used to measure the Program's and tasks' effectiveness.* The Discharger shall establish criteria to evaluate the effectiveness of its Pollution Prevention Program. This shall also include a discussion of the specific criteria used to measure the effectiveness of each of the tasks in item b. (iv), b. (v), and b. (vi).

(8) *Documentation of efforts and progress.* This discussion shall detail all of the Discharger's activities in the Pollution Prevention Program during the reporting year.

(9) *Evaluation of the Program and tasks' effectiveness.* This Discharger shall utilize the criteria established in b. (7) to evaluate the Program's and tasks' effectiveness

(10) *Identification of specific tasks and time schedules for future efforts.* Based on the evaluation, the Discharger shall detail how it intends to continue or change its tasks in order to more effectively reduce the amount of pollutants to the treatment plant, and subsequently in its effluent.

c. According to Section 2.4.5 of the SIP, when there is evidence that a priority pollutant is present in the effluent above an effluent limitation, and either:

(1) A sample result is reported as detected, but not quantified (less than the Minimum Level) and the effluent limitation is less than the reported Minimum Level; or

(2) A sample result is reported as not detected (less than the Method Detection Limit) and the effluent limitation is less than the Method Detection Limit,

then the Discharger shall expand its existing Pollution Prevention Program to include the reportable priority pollutant. A priority pollutant becomes a reportable priority pollutant when (1) there is evidence that it is present in the effluent above an effluent limitation and either (c)(1) or (c) (2) is triggered, or (2) if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level.

d. If triggered by the reasons in Provision 12.c. and notified by the Executive Officer, the Discharger's Pollution Prevention Program shall, within 6 months, also include:

(1) An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling, or alternative measures approved by the Executive Officer when it is demonstrated that source monitoring is unlikely to produce useful analytical data;

(2) Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system, or alternative measures approved by the Executive Officer when it is demonstrated that influent monitoring is unlikely to produce useful analytical data;

(3) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;

(4) Development of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and

(5) An annual status report that shall be sent to the RWQCB including:
   (a) All Pollution Prevention monitoring results for the previous year;
   (b) A list of potential sources of the reportable priority pollutant(s);
   (c) A summary of all actions undertaken pursuant to the control strategy; and
   (d) A description of actions to be taken in the following year

e. To the extent where the requirements of the Pollution Prevention Program and the Pollutant Minimization Program overlap, the Discharger is allowed to continue/modify/expand its existing Pollution Prevention Program to satisfy the Pollutant Minimization Program requirements.

f. These Pollution Prevention/Pollutant Minimization Program requirements are not intended to fulfill the requirements in The Clean Water Enforcement and Pollution Prevention Act of 1999 (Senate Bill 709).

13. **Special Study – Dioxin Study:** In accordance with the SIP, major dischargers shall conduct effluent monitoring for the seventeen 2, 3, 7, 8-TCDD congeners listed below. The purpose of the monitoring is to assess the presence and amounts of the congeners being discharged to inland surface waters, enclosed bays, and estuaries for the development of a strategy to control these chemicals in a future multi-media approach. Major dischargers are required to monitor the effluent once during the dry season and once during the wet season for a period of three consecutive years.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8-tetra CDD	1.0
1, 2,3,7,8-penta CDD	1.0
1, 2, 3, 4, 7, 8-HexaCDD	0.1
1, 2, 3, 6, 7, 8-HexaCDD	0.1
1, 2, 3, 7, 8,9-HexaCDD	0.1
1, 2, 3, 4, 6, 7, 8-HeptaCDD	0.01
Octa CDD	0.0001
2,3,7,8-Tetra CDF	0.1
1,2,3,7,8-Penta CDF	0.05
2,3,4,7,8-Penta CDF	0.5
1, 2, 3, 4, 7, 8-HexaCDF	0.1
1, 2, 3, 6, 7, 8-HexaCDF	0.1
1, 2, 3, 7, 8, 9-HexaCDF	0.1
2, 3, 4, 6, 7, 8-HexaCDF	0.1
1, 2, 3, 4, 6, 7, 8-HeptaCDF	0.01
1, 2, 3, 4, 7, 8,9-HeptaCDF	0.01
Octa CDF	0.0001

	Task	**Compliance Date**
a.	**Sampling Plan**	September 30, 2001

Submit a proposed sampling plan, acceptable to the Executive Officer, to sample the effluent for seventeen congeners. This submittal shall include a proposed plan and time schedule for performing the work.

b. **Implement Plan** — 30 days after approval of study

Following approval by the Executive Officer, commence work in a timely fashion in accordance with the sampling plan.

c. **Final Report** — October 30, 2004

Submit a report, to the Board, documenting the work performed in the sampling plan for the seventeen congeners.

14. **Mercury Mass Loading Reduction Study and Schedule**

a. *Notification:* All exceedences of the mercury mass loading effluent limitation shall be reported to the Regional Board in accordance with Section E.6.b.of the Regional Board's Standard Provisions.

b. *Verification:* The Discharger shall resample to verify the increase in loading. If re-sampling confirms that the mass loading effluent limitation has been exceeded, the Discharger shall initiate a Mercury Source Control and Reduction Program to address the Order violation.

c. *Mercury Source Control and Reduction Program:*

The Discharger shall develop an aggressive source control and pollution prevention program to identify sources and evaluate options for control and reduction of mercury loadings. Objectives of the program shall include maintaining loadings at or below the mass emission limit specified in this Order, and the feasibility of attaining effluent mercury concentrations at or below the Basin Plan mercury criterion of 0.025 µg/L. This program shall consider reductions in mercury effluent concentrations achieved through source control and economically feasible optimization of treatment plant processes. If necessary, alternative control strategies shall be investigated, through participation with the Regional Board and other dischargers in identifying cross media watershed-wide sources of mercury impacting the receiving water, and potential control measures. This program shall be developed in accordance with the following time schedule:

Task:	**Compliance Date**
Mercury Source and Reduction Study Plan	60 days after mass emission limit exceedance verification.

Submit a proposed Study Plan for approval by the Executive Officer, to investigate mercury sources and reduction measures. The proposed investigation shall include:

- sampling and characterizing mercury in residential and commercial wastewater at representative locations in the collection system over a reasonable period of time;
- evaluating means for reducing significant sources;
- identifying means of optimizing mercury removal by treatment plant processes; and
- assessing the feasibility of controlling effluent mercury loadings through:
  - improving education and outreach;
  - reducing infiltration and inflow, and
  - increasing reclamation and reuse of treated effluent.

This Study Plan shall include proposed actions and a time schedule.

Task: Interim Report
Compliance Date: 6 months after study commencement
Submit an interim report for approval by the Executive Officer, documenting the initial source reduction options identified, and past and proposed future efforts to encourage minimization of mercury discharges to the collection system and to the central San Francisco Bay.

Task: Final Report
Compliance Date: 12 months after Executive Officer approves Interim Report
Submit a final report for approval by the Executive Officer, documenting the source reduction work and efforts made to minimize mercury loading

to the collection system and central San Francisco Bay. This report shall include a feasibility assessment for controlling effluent mercury loadings through, at a minimum:

- identifying and reducing sources,
- optimizing treatment plant performance,
- improving public education and outreach,
- reducing infiltration and inflow, and
- increasing reclamation and reuse of treated effluent

Task: Mercury Loading Control Plan.
Compliance Date: 8 months after Executive Officer approves Final Report.
Develop a plan and time schedule for approval by the Executive Officer to maintain mercury mass loadings at or below the mass emission limit level specified in this Order, based on the results of the Final Report.

15. **Ambient Background Receiving Water Study**

The discharger shall obtain data on background ambient receiving water quality. This information is required to perform the RPA and to determine the effluent limitations.

A sampling plan shall be submitted to the Executive Officer for approval, prior to sampling. The discharger may choose to coordinate with other POTWs in the area in order to effectively acquire the same information required of them.

	Task	Compliance Date
a.	**Sampling Plan**	One year after permit adoption

Submit a proposed sampling plan, acceptable to the Executive Officer, to sample background, ambient receiving waters upstream from the facility. This submittal shall include a proposed plan and time schedule for performing the work.

b. **Implement Plan** — Schedule according to the Sampling Plan

Commence work in a timely fashion in accordance with the sampling plan.

c. **Final Report** — May 18, 2003

Submit a report, to the Board, documenting the work performed in the sampling plan. The information to be included, but not limited to, in the report are as follows: constituent sampled for, sampling results, location of the samples, time the samples were taken, sample methodology, analytical methods, QA/QC data, and map showing the location of the sampling site(s) in relation to the location of the discharger.

Background ambient samples are required for constituents that have a reasonable potential, have an incomplete RPA for the constituent, or have an incomplete RPA with an interim limit. The constituents that fall in these categories are labeled yes ("Y"), and incomplete ("CD and DL") in the RP column in the Finding. No background ambient water samples are required from constituents that do not have a reasonable potential.

16. **Cyanide Data Collection Requirements**
The Discharger shall submit the following proposals and reports acceptable to the Executive Officer within the specified time periods. Each proposal shall include detailed description of the scope of the

study for cyanide, along with an implementation schedule that is based on the shortest practicable time required to perform each task.

a. A proposal for ambient background water quality characterization for cyanide shall be submitted within 90 days of the effective date of this Order. It shall include, but is not limited to, the description of the location(s) for water quality sampling, analytical method(s) to be used, monitoring frequency, and reporting requirements.

b. A proposal for site-specific objective study for cyanide shall be submitted within 120 days of the effective date of this Order. It shall include, but is not limited to, the information specified in section 5.2 (1), (2), and (3) of the SIP.

Upon approval by the Executive Officer, the Discharger shall implement the proposals. Annual reports acceptable to the Executive Officer shall be submitted by January 31 of each year documenting the progress of the ambient background characterization and site-specific objective studies. Annual report shall summarize the findings and progress to date, and include a realistic assessment of the shortest practicable time required to perform the remaining tasks of the studies.

By May 18, 2003, the Discharger shall complete the ambient background water quality characterization study, and submit a report of the results.

By June 30, 2003, the Discharger shall submit a report of completion for the site-specific objective study. This study shall be adequate to allow the Regional Board to initiate the development and adoption of the site-specific objective for cyanide.

17. **SSO / TMDL Participation Requirement:** The Discharger shall participate in the development of a TMDL or SSO for copper, mercury, cyanide, and dioxin/furans. By January 31 of each year, the Discharger shall submit an update to the Board to document progress made on source control and pollutant minimization measures and development of TMDL or SSO.

18. **Bis (ethylhexyl) Phthalate Source Identification / Reduction Program:** The Discharger shall develop a Source Identification/Reduction Program acceptable to the Executive Officer.

19. **Operations and Maintenance Manual, Review and Status Reports**:
    a. The Discharger shall maintain an Operations and Maintenance Manual (O & M Manual) as described in the findings of this Order for the Discharger's wastewater facilities. The O & M Manual shall be maintained in useable condition and available for reference and use by all applicable personnel.

    b. The Discharger shall regularly review, and revise or update as necessary, the O & M Manual(s) in order for the document(s) to remain useful and relevant to current equipment and operation practices. Reviews shall be conducted annually, and revisions or updates shall be completed as necessary. For any significant changes in treatment facility equipment or operation practices, applicable revisions shall be completed within 90 days of completion of such changes.

    c. Annually, the Discharger shall submit to the Board a report describing the current status of its O & M Manual review and updating. This report shall include an estimated time schedule for completion of any revisions determined necessary, a description of any completed revisions, or a statement that no revisions are needed. This report shall be submitted in accordance with Provision F.21 below.

20. **Contingency Plan, Review and Status Reports**:
    a. The Discharger shall maintain a Contingency Plan as required by Board Resolution 74-10 (attachment E), and as prudent in accordance with current municipal facility emergency planning. The discharge of pollutants in violation of this Order where the Discharger has failed to develop and/or adequately implement a contingency plan will be the basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

    b. The Discharger shall regularly review, and update as necessary, the Contingency Plan in order for the plan to remain useful and relevant to current equipment and operation practices. Reviews shall be conducted annually, and updates shall be completed as necessary.

    c. Annually, the Discharger shall submit to the Board a report describing the current status of its Contingency Plan review and update. This report shall include a description or copy of any completed revisions, or a statement that no changes are needed. This report shall be submitted in accordance with Provision F.21 below.

21. **Annual Status Reports**: The reports identified in Provisions F.19.c and F.20.c above shall be submitted to the Board annually, by February 15 of each year. Modification of report submittal dates may be authorized, in writing, by the Executive Officer.

22. **TMDL Status Review**: Regional Board staff shall review the status of TMDL development. This permit may be reopened in the future to reflect any changes in the progress of TMDL development.

23. **New Water Quality Objectives**: As new or revised water quality objectives come into effect for the San Francisco Bay estuary and contiguous water bodies (whether statewide, regional or site-specific), effluent limitations in this permit will be modified as necessary to reflect updated water quality objectives. Adoption of effluent limitations contained in this permit is not intended to restrict in any way future modifications based on legally adopted water quality objectives.

24. **Change in Control or Ownership**:
    a. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Board.

    b. To assume responsibility of and operations under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order (see Standard Provisions & Reporting Requirements, August 1993, Section E.4.). Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code.

25. **Permit Reopener**: The Board may modify, or revoke and reissue, this Order and Permit if present or future investigations demonstrate that the discharge(s) governed by this Order will or have the potential to cause or contribute to adverse impacts on water quality and/or beneficial uses of the receiving waters.

26. **NPDES Permit**: This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective on July 1, 2001, provided the U.S. EPA Regional Administrator has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

27. **Order Expiration and Reapplication**:

a. This Order expires on May 31, 2006.

b. In conformance with Title 23, section 2235.1, of the California Code of Regulations and the applicable federal regulations, the Discharger must file a report of waste discharge no later than 180 days before the expiration date of this Order as application for reissue of this permit and waste discharge requirements.

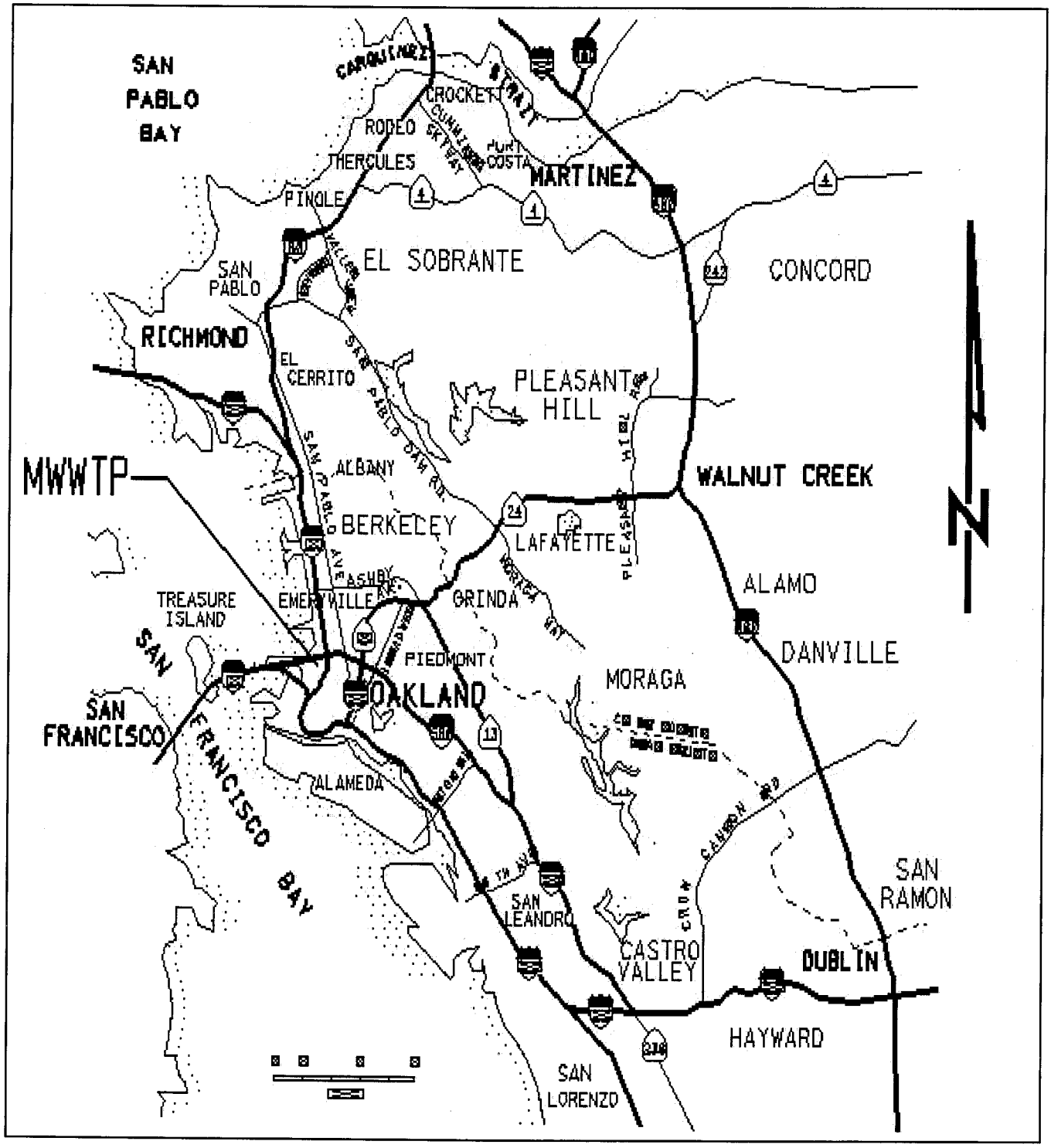
I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on June 20, 2001.

Loretta K. Barsamian
LORETTA K. BARSAMIAN
Executive Officer

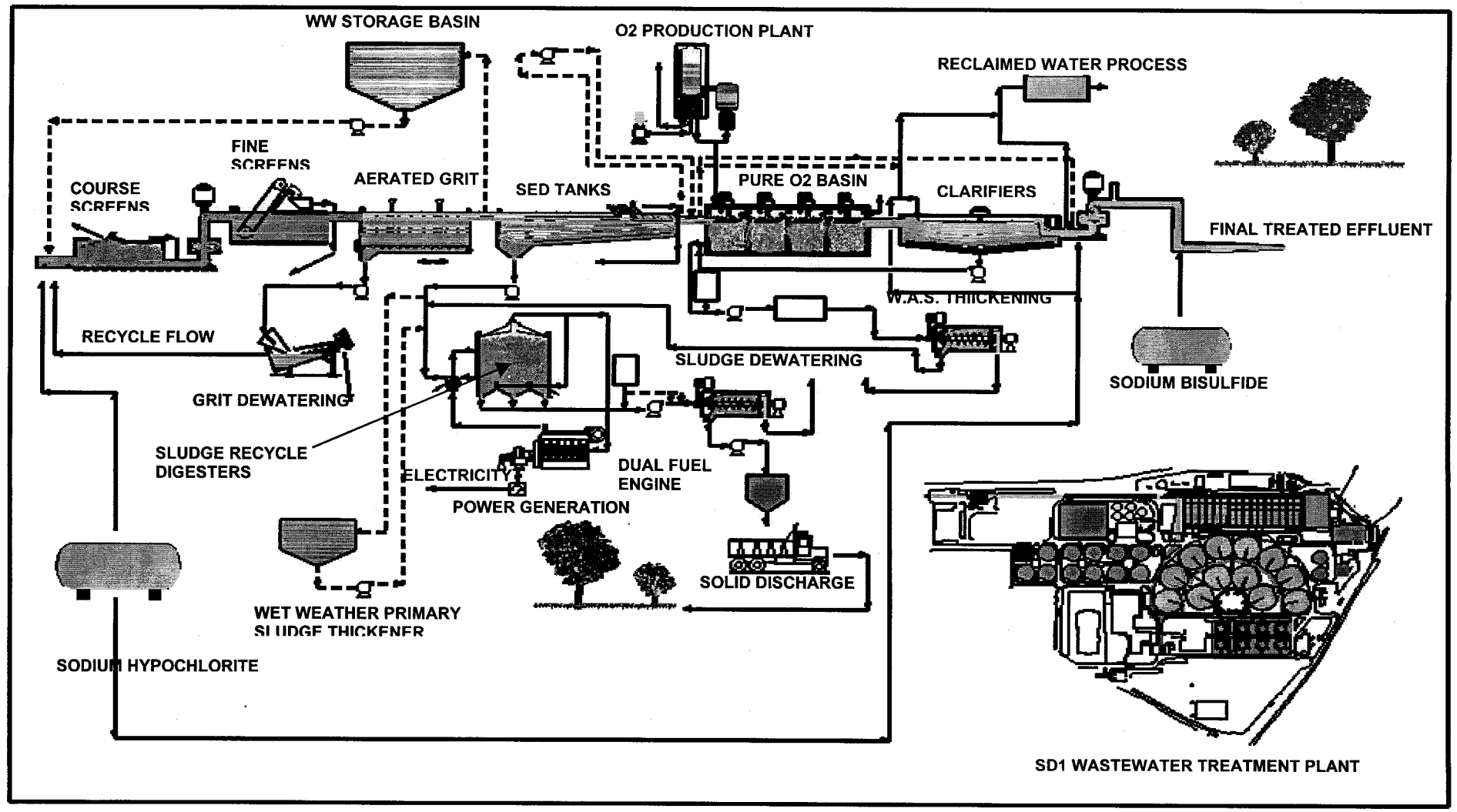
Attachments:

A. Location Map
B. Process Diagram
C. Standard Provisions
D. Self Monitoring Program – Part A and B
E. Resolution No. 74-10
F. Pretreatment Requirements

Attachment A
Location Map



Attachment B
Process Diagram



Attachment C

Attachment D

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

EAST BAY MUNICIPAL UTILITIES DISTRICT
SPECIAL DISTRICT NO. 1

OAKLAND
ALAMEDA COUNTY

NPDES PERMIT NO. CA0037702

Consists of:
Part A (not attached), except as modified in Section VI.C of Part B
Adopted August 1993

and

Part B (Attached)
Adopted: June 20, 2001

Note: Part A (dated August 1993) and Standard Provisions and Reporting Requirements for NPDES Surface Water Discharger Permits (dated August 1993) referenced in this Self Monitoring Program are not attached but are available for review or download on the Board's website at www.swrcb.ca.gov/rwqcb2.

SELF-MONITORING PROGRAM

Part B

I. Description of Sampling and Observation Stations

A. INFLUENT

Station	Description
A-001	At any point in the treatment facilities' headworks at which all waste tributary to the treatment system is present, and preceding any phase of treatment, and exclusive of any return flows or process side streams that would significantly impact the quantity or quality of the influent.

B. EFFLUENT

Station	Description
E-001	At any point in the outfall from the treatment facilities between the point of discharge and the point at which all waste tributary to that outfall is present (may be the same as E-001D.
E-001-D	At any point in the disinfection facilities for Waste E-001, at which point adequate contact with the disinfectant is assured.

C. OVERFLOWS AND BYPASSES

Station	Description
OV-1 through O-n	Bypass or overflows from treatment facility, manholes, pump stations, and interceptors under the discharger's control.

NOTE:

A map and description of each known or observed overflow or bypass location shall accompany each monthly report. A summary of these occurrences and their location shall be included with the Annual Report for each calendar year.

II. Schedule of Sampling, Analysis and Observations

The schedule of sampling, analysis and observation shall be that given in Table 1 below.

Table 1

SCHEDULE of SAMPLING, ANALYSES and OBSERVATIONS

Sampling Station			A-001[1]	E-001		E-001D	
Type of Sample			C-24	G	C-24	G	C-24
Parameter	**Units**	**Notes**	[1]				
Flow Rate	mgd	[2]	Cont/D		Cont/D		
PH	pH units			2/W			
$CBOD_5 20°C$	mg/L		2/W		2/W		
TSS	mg/L		2/W		2/W		
Oil & Grease	mg/L	[3][10]		2/Y			
Settleable Matter	ml/l-hr				M		
Fecal Coliform	MPN / 100 ml					2/W	
Ammonia Nitrogen	mg/L				2/M		
Chlorine Residual	mg/L	[4]					Cont. or 1/H
Acute Toxicity	% Survival	[5]			M		
Chronic Toxicity	TUc	[6]			2/Y		
Chromium	µg/L				M		
Copper	µg/L & kg/mo				M		
Mercury	µg/L & kg/mo				M		
Lead	µg/L				M		
Nickel	µg/L				M		
Silver	µg/L				M		
Zinc	µg/L				M		
Arsenic	µg/L				M		
Cadmium	µg/L				M		
Selenium	µg/L				M		
Cyanide	µg/L	[10]			M		
Dioxin (TEQ)	pg/L	[7, 8, 11]		2/Y			
Tributyltin	µg/L				2/Y		
4,4-DDE	ng/L			1/5Y			
Dieldrin	ng/L			1/5Y			
PCBs	ng/L			2/Y			
PAHs	µg/L			2/Y			
Table 2 Constituents except those listed above	µg/L	[9, 10]		2/Y			

Pretreatment Requirements			
Constituents / EPA Method	Influent	Effluent	Sludge
VOC / 624	Q	Q	
BNA / 625	Q	Q	
Metals [11]	M	M	
Sludge [12]			2/Y

LEGEND FOR TABLE 1

Sampling Stations:

A	=	treatment facility influent
E	=	treatment facility effluent
OV	=	overflow and bypass points
P	=	treatment facility perimeter points
O	=	observation

Types of Samples

C-24	=	Composite of samples collected over a 24-hour period

(includes continuous sampling, such as for flows)

C-X	=	composite samples collected over an X hour period
G	=	grab sample

Frequency of Sampling

Cont.	=	continuous
Cont/D	=	continuous monitoring & daily reporting
D	=	once each day
E	=	each occurrence
H	=	once each hour (at about hourly intervals)
M	=	once each month
Q	=	once each calendar quarter (at about three month intervals)
W	=	once each week
Y	=	once each calendar year
2/Y	=	twice each calendar year (at about 6 months intervals, once in the dry season, once in the wet season)
3/W	=	three times each calendar week (on separate days)
5/W	=	five times each calendar week (on separate days)
1/5Y	=	once every five years

Parameter and Unit Abbreviations

BOD_5 20°C	=	Biochemical Oxygen Demand, 5-day, at 20 °C
D.O.	=	Dissolved Oxygen
Est V	=	Estimated Volume (gallons)
Metals	=	multiple metals; See SMP Section VI.G.
TSS	=	Total Suspended Solids
mgd	=	million gallons per day
mg/L	=	milligrams per liter
ml/L-hr	=	milliliters per liter, per hour
µg/L	=	micrograms per liter
kg/d	=	kilograms per day
kg/mo	=	kilograms per month
MPN/100 ml	=	Most Probable Number per 100 milliliters

FOOTNOTES FOR TABLE 1

[1] Additional details regarding sampling, analyses and observations are given in Section VI of this SMP, *Specifications for Sampling, Analyses and Observations* (SMP Section VI).

[2]	Flow Monitoring.	See SMP Section:	III. B
[3]	Oil & Grease Monitoring.	See SMP Section:	III. C
[4]	Chlorine Residual Monitoring.	See SMP Section:	III. D
[5]	Acute Toxicity Monitoring.	See SMP Section:	III. E; and Provision F.5
[6]	Chronic Toxicity Monitoring.	See SMP Section	III. F; and Provision F.6, F.7
[7]	Dioxin	See SMP Section:	III. G

[8] Per Section F.13 (Provisions – Dioxin Study) of this permit, dioxin samples must be collected once during the dry season and once during the wet season.

[9] Table 2 Selected Constituents See SMP Section: IV

[10] Samples for these constituents shall be collected in conformance with the definition of composite sample specified in Section VI.C.20 of Part B.

[11] Same EPA method used to determine compliance with the NPDES permit. The parameters are arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, zinc, selenium and cyanide.

[12] EPA approved methods.

III. Specifications for Sampling, Analysis and Observations

Sampling, analyses and observations, and recording and reporting of results shall be conducted in accordance with the schedule given in Table 1 of this SMP, and in accordance with the following specifications, as well as all other applicable requirements given in this SMP. All analyses shall be conducted using analytical methods that are commercially and reasonably available, and that provide quantification of sampling parameters and constituents sufficient to evaluate compliance with applicable effluent limits.

A. Influent Monitoring.
Influent monitoring identified in Table 1 of this SMP is the minimum required monitoring. Additional sampling and analyses may be required in accordance with Pretreatment Program or Pollution Prevention/Source Control Program requirements.

B. Flow Monitoring.
Flow monitoring indicated as continuous monitoring in Table 1 shall be conducted by continuous measurement of flows, and reporting of the following measurements:

1. Influent (A-001), and Effluent (E-001):
   a. Daily:
      (1) Average Daily Flow(mgd)
      (2) Maximum Daily Flow (mgd)
      (3) Minimum Daily Flow (mgd).

   b. Monthly: The same values as given in a. above, for the calendar month.

C. Oil & Grease Monitoring.
Each Oil & Grease sample event shall consist of a flow weighted average of four grab samples taken at equal intervals during the sampling date with each grab sample being collected in a glass container. Each sample container shall be rinsed and the rinsate incorporated into the sample for extraction and analysis.

D. Disinfection Process Monitoring.
Chlorine Residual Monitoring
During all times when chlorination is used for disinfection of the effluent, effluent chlorine residual concentrations shall be monitored continuously, or by grab samples taken hourly. Chlorine residual concentrations shall be monitored and reported for sampling points both prior to and following dechlorination. Total chlorine dosage (kg/day) shall be recorded on a daily basis.

E. Acute Toxicity Monitoring.
The following parameters shall be monitored on the sample stream used for the acute toxicity bioassays, at the start of the bioassay test and daily for the duration of the bioassay test, and the results reported: pH, temperature, dissolved oxygen, and ammonia nitrogen.

F. Chronic Toxicity Monitoring:
See **also,** Provision F.6, F.7 and Self Monitoring Program – Attachment 1 of this Order.
1. Chronic Toxicity Monitoring Requirements
   a. Sampling. The Discharger shall collect 24-hour composite samples of treatment plant effluent at Sampling Station E-001, for critical life stage toxicity testing as indicated below. For toxicity tests requiring renewals, 24-hour composite samples collected on consecutive days are required.

b. Test Species: Chronic toxicity shall be monitored by using critical life stage test(s) and the most sensitive test specie(s) identified by screening phase testing or previous testing conducted under the ETCP. Test specie(s) shall be approved by the Executive Officer. Two test species may be required if test data indicate that there is alternating sensitivity between the two species.

c. Frequency:

(1) Routine Monitoring:	Semiannually, beginning in 2001 (Screening Phase monitoring may by substituted for first year routine monitoring.
(2) Accelerated Monitoring:	Twice per quarter, or as otherwise specified by the Executive Officer.

d. Conditions for Accelerated Monitoring: The Discharger shall conduct accelerated monitoring when either of the following conditions are exceeded:
(1) three sample median value of 10 TUc, or
(2) single sample maximum value of 20 TUc.

e. Methodology: Sample collection, handling and preservation shall be in accordance with U.S. EPA protocols. The test methodology used shall be in accordance with the references cited in this Permit, or as approved by the Executive Officer. A concurrent reference toxicant test shall be performed for each test.

f. Dilution Series: The Discharger shall conduct tests at 2.5%, 5%, 10%, 20%, and 40%. The "%" represents percent effluent as discharged.

2. *Chronic Toxicity Reporting Requirements*
   a. Routine Reporting: Toxicity test results for the current reporting period shall include, at a minimum, for each test:
      (1) sample date(s)
      (2) test initiation date
      (3) test species
      (4) end point values for each dilution (e.g. number of young, growth rate, percent survival)
      (5) NOEC value(s) in percent effluent
      (6) IC15, IC25, IC40, and IC50 values (or EC15, EC25 ... etc.) in percent effluent
      (7) TUc values (100/NOEC, 100/IC25, and 100/EC25)
      (8) Mean percent mortality (±s.d.) after 96 hours in 100% effluent (if applicable)
      (9) NOEC and LOEC values for reference toxicant test(s)
      (10) IC50 or EC50 value(s) for reference toxicant test(s)
      (11) Available water quality measurements for each test (ex. PH, D.O., temperature, conductivity, hardness, salinity, ammonia)
   b. Compliance Summary: The results of the chronic toxicity testing shall be provided in the most recent self-monitoring report and shall include a summary table of chronic toxicity data from at least eleven of the most recent samples. The information in the table shall include the items listed above under Section F.2.a, item numbers 1, 3, 5, 6(IC_{25} or EC_{25}), 7, and 8.

G. Dioxin and Furan :

The discharger shall use U.S. EPA Method 1613 for analysis. Analysis results showing non-detects are considered zero for use in calculation for compliance determination with the effluent limit. However, all estimated concentrations from the laboratory that are above detection but below the lowest calibration standard shall be reported in the Self-Monitoring Reports.

IV. Selected Constituents Monitoring

A. Effluent monitoring shall include evaluation for all constituents listed in Table 2 below by sampling and analysis of final effluent.

B. Analyses shall be conducted using the lowest commercially available and reasonably achievable detection levels. The objective is to provide quantification of constituents sufficient to allow evaluation of observed concentrations with respect to respective water quality objectives.

V. Monitoring Methods and Minimum Detection Levels

A. The Discharger may use the methods listed in the Table 2 below or alternate test procedures that have been approved by the U.S. EPA Regional Administrator pursuant to 40 CFR 136.4 and 40 CFR 136.5 (revised as of May 14, 1999); or

B. Where no methods are specified for a given pollutant in the Table 2 below, methods approved by the SWRCB or RWQCB.

Table 2

CTR #	Constituent (a)	Minimum Level (µg/L) (b)											
		GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
1.	Antimony					10	5	50	0.5	5	0.5		1000
2.	Arsenic				20		2	10	2	2	1		1000
3.	Beryllium					20	0.5	2	0.5	1			1000
4.	Cadmium				10	0.5	10	0.25	0.5				1000
5a.	Chromium (III) I												
5b.	Chromium (VI)				10	5							1000
6.	Copper (d)					25	5	10	0.5	2			1000
7.	Lead					20	5	5	0.5	2			10,000
8.	Mercury (e)								0.5			0.2	
9.	Nickel					50	5	20	1	5			1000
10.	Selenium						5	10	2	5	1		1000
11.	Silver					10	1	10	0.25	2			1000
12.	Thallium					10	2	10	1	5			1000
13.	Zinc					20		20	1	10			
14.	Cyanide				5								
15.	Asbestos (c, f)												
16.	2, 3, 7, 8-TCDD (Dioxin) (c, h)												
17.	Acrolein	2.0	5										
18.	Acrylonitrile	2.0	2										
19.	Benzene	0.5	2										
20.	Bromoform	0.5	2										
21.	Carbon Tetrachloride	0.5	2										
22.	Chlorobenzene	0.5	2										
23.	Chlorodibromomethane	0.5	2										
24.	Chloroethane	0.5	2										
25.	2-Chloroethylvinyl Ether	1	1										
26.	Chloroform	0.5	2										
27.	Dichlorobromomethane	0.5	2										
28.	1,1-Dichloroethane	0.5	1										
29.	1,2-Dichloroethane	0.5	2										
30.	1, 1-Dichloroethylene or 1,1 Dichloroethene	0.5	2										
31.	1, 2-Dichloropropane	0.5	1										
32.	1, 3 –Dichloropropylene or 1,3-Dichloropropene	0.5	2										
33.	Ethylbenzene	0.5	2										
34.	Methyl Bromide or Bromomethane	1.0	2										
35.	Methyl Chloride or Chloromethane	0.5	2										
36.	Methylene Chloride or Dichlorormethane	0.5	2										
37.	1,1, 2,2-Tetrachloroethane	0.5	1										
38.	Tetrachloroethylene	0.5	2										
39.	Toluene	0.5	2										
40.	1,2-Trans-Dichloroethylene	0.5	1										
41.	1,1,1-Trichloroethane	0.5	2										
42.	1,1,2-Trichloroethane	0.5	2										
43.	Trichloroethylene or Trichloroethene	0.5	2										
44.	Vinyl Chloride	0.5	2										
45.	2-Chlorophenol	2	5										

CTR #	Constituent (a)	Minimum Level (µg/L) (b)											
		GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
46.	2, 4 Dichlorophenol	1	5										
47.	2,4-Dimethylphenol	1	2										
48.	2-Methyl-4,6-Dinitrophenol or Dinitro-2-methylphenol	10	5										
49.	2,4-Dinitrophenol	5	5										
50.	2-Nitrophenol		10										
51.	4-Nitrophenol	5	10										
52.	4-chloro-3-methylphenol	5	1										
53.	Pentachlorophenol	1	5										
54.	Phenol	1	10		50								
55.	2, 4, 6 Trichlorophenol	10	10										
56.	Acenaphthene	1	1	0.5									
57.	Acenaphthylene		10	0.2									
58.	Anthracene		10	2									
59.	Benzidine		5										
60.	Benzo(a)Anthracene or 1,2 Benzanthracene	10	5										
61.	Benzo(a)Pyrene		10	2									
62.	Benzo(b)Fluoranthene or 3,4 Benzofluoranthene		10	10									
63.	Benzo(ghi)Perylene		5	0.1									
64.	Benzo(k)Fluoranthene		10	2									
65.	Bis(2-Chloroethoxy) Methane		5										
66.	Bis(2-Chloroethyl) Ether	10	1										
67.	Bis(2-Chloroisopropyl) Ether	10	2										
68.	Bis(2-Ethylhexyl) Phthalate	10	5										
69.	4-Bromophenyl Phenyl Ether	10	5										
70.	Butylbenzyl Phthalate	10	10										
71.	2-Chloronaphthalene		10										
72.	4-Chlorophenyl Phenyl Ether		5										
73.	Chrysene		10	5									
74.	Dibenzo(a,h) Anthracene		10	0.1									
75.	1, 2 Dichlorobenzene (volatile)	0.5	2										
	1, 2 Dichlorobenzene (semi-volatile)	2	2										
76.	1, 3 Dichlorobenzene (volatile)	0.5	2										
	1, 3 Dichlorobenzene (semi-volatile)	2	1										
77.	1, 4 Dichlorobenzene (volatile)	0.5	2										
	1, 4 Dichlorobenzene (semi-volatile)	2	1										
78.	3,3'-Dichlorobenzidine		5										
79.	Diethyl Phthalate	10	2										
80.	Dimethyl Phthalate	10	2										
81.	Di-n-Butyl Phthalate		10										
82.	2,4-Dinitrotoluene	10	5										
83.	2,6-Dinitrotoluene		5										
84.	Di-n-Octyl Phthalate		10										
85.	1,2-Diphenylhydrazine		1										
86.	Fluoranthene	10	1	0.05									
87.	Fluorene		10	0.1									
88.	Hexachlorobenzene	5	1										
89.	Hexachlorobutadiene	5	1										
90.	Hexachlorocyclopentadiene	5	5										

CTR #	Constituent (a)	Minimum Level (µg/L) (b)											
		GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
91.	Hexachloroethane	5	1										
92.	Indeno(1,2,3-cd)Pyrene		10	0.05									
93.	Isophorone	10	1										
94.	Naphthalene	10	1	0.2									
95.	Nitrobenzene	10	1										
96.	N-Nitrosodimethylamine	10	5										
97.	N-Nitrosodi-n-Propylamine	10	5										
98.	N-Nitrosodiphenylamine	10	1										
99.	Phenanthrene		5	0.05									
100.	Pyrene		10	0.05									
101.	1,2,4-Trichlorobenzene	1	5										
102.	Aldrin	0.005											
103.	α-BHC	0.01											
104.	β-BHC	0.005											
105.	γ-BHC (Lindane)	0.022											
106.	δ-BHC	0.005											
107.	Chlordane	0.1											
108.	4,4'-DDT	0.01											
109.	4,4'-DDE	0.05											
110.	4,4'-DDD	0.05											
111.	Dieldrin	0.01											
112.	Endosulfan (alpha)	0.02											
113.	Endosulfan (beta)	0.01											
114.	Endosulfan Sulfate	0.05											
115.	Endrin	0.01											
116.	Endrin Aldehyde	0.01											
117.	Heptachlor	0.01											
118.	Heptachlor Epoxide	0.01											
119-125	PCBs (g)	0.5											
126.	Toxaphene	0.5											
127	Tributyltin I												
128	Chlorpyrifos (c, i)												
129	Diazinon (c, i)												

Notes:

a.) Factors may be applied to the ML depending on the specific sample preparation steps employed. Dischargers are to instruct laboratories to establish calibration standards so that the ML value is the lowest calibration. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

b.) Laboratory techniques are defined as follows: GC = Gas Chromatography; GCMS = Gas Chromatography/Mass Spectrometry; LC = High Pressure Liquid Chromatography; Color = Colorimetric; FAA = Flame Atomic Absorption; GFAA = Graphite Furnace Atomic Absorption; Hydride = Gaseous Hydride Atomic Absorption; CVAA = Cold Vapor Atomic Absorption; ICP = Inductively Coupled Plasma; ICPMS = Inductively Coupled Plasma/Mass Spectrometry; SPGFAA = Stabilized Platform Graphite Furnace Atomic Absorption (i.e. U.S. EPA 200.9); DCP = Direct Current Plasma.

c.) The SIP does not contain an ML for this constituent.

d.) For copper, the Discharger may also use the following laboratory techniques with the relevant minimum level: GFAA with a minimum level of 5 µg/L and SPGFAA with a minimum level of 2 µg/L.

e.) Use ultra-clean sampling to the maximum extent practicable and analytical methods for mercury monitoring per 13267 letter issued to Discharger. ML for compliance purposes is as listed in table above until the SWRCB adopts alternative minimum level.
f.) The Discharger does not need to sample for this constituent because sampling is not required for receiving waters without a municipal beneficial use designation.
g.) PCBs refer to PCB 1016, 1221, 1232, 1242, 1248, 1254 and 1260.
h.) Use Method1613 for TCDD analysis and test for seventeen congeners.
i.) The detection limit goals for these constituents are 0.03 µg/L.

VI. REPORTING REQUIREMENTS

A. General Reporting Requirements are described in Section E of the Board's "*Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits*", dated August 1993.

B. Monthly Self-Monitoring Report (SMR) Requirements are described in Section F.4 of Part A of the *Self-Monitoring Program,* dated August 1993.

C. Modification of Self-Monitoring Program, Part A (Part A):

1. Section B, first paragraph, shall be modified as follows:

   Sample collection, storage, and analyses shall be performed according to methods specified in 40 CFR 136 or other methods approved and specified by the Executive Officer of this Regional Board (See Part B).

2. Section C.1 of Part A shall be modified as follows:

   Composite samples of influent as required in Table 1 of Part B shall be collected on varying days selected at random and shall not include any plant recirculation or other side stream wastes except as allowed in Section I.A of Part B.

3. Section C.2.a of Part A, shall be modified as follows:

   Composite samples of effluent as required in Table 1 of Part B shall be collected on days coincident with influent composite sampling as required in Table 1 of Part B unless otherwise stipulated. If additional influent or effluent sampling beyond that required in Table 1 of Part B is done voluntarily or to fulfill any requirements in this permit other than those specified in Table 1 or Part B, corresponding collection of effluent or influent samples is not required by this section. The Executive Officer may approve an alternative sampling plan if it is demonstrated to be representative of plant discharge flow and in compliance with all other requirements of this permit.

4. Section C.2.b of Part A shall be modified as follows:

   Grab samples of effluent shall be collected during periods of maximum peak flows at a frequency specified in Table 1 of Part B, shall coincide with effluent composite sample days, and shall be analyzed for the constituents specified in Table 1.

5. Section C.2.c of Part A shall be modified as follows:

   Effluent sampling will occur on at least one day of any multiple-day flow-through bioassay test required by Table 1 in Part B.

6. Section C.2.c(1) of Part A shall be modified as follows (C.2.c(2) is unchanged):

   Bioassay tests should be performed on effluent samples after chlorination-dechlorination. If biological growth in the dechlorinated effluent sample line is a potential problem, chlorinated effluent that is dechlorinated separately from the plant dechlorination process may be used for the bioassay test.

7. Section C.2.h of Part A shall be modified as follows:

   When a bypass as defined in Section A.13 and G.1 of Part D, Standard Provisions and Reporting Requirements and notwithstanding the allowable wet weather discharges described in Finding 9 and Prohibition 4 of the permit occurs, composite samples shall be collected on a daily basis for conventional pollutants at all affected discharge points which have effluent daily maximum limits for the duration of the bypass.

8. Section C.3 of Part A, insert the following:

   The requirement of this section only apply to facilities where storm water is not directed to the headworks during wet weather. At EBMUD's Main Wastewater Treatment Plant, all stormwater is directed to the headworks at all times so the requirements of this section do not apply.

9. Section C.4 of Part A, insert the following:

   The requirements of this section only apply when receiving water sampling is required by Table 1 of Part B. Receiving water sampling is not specified in Table 1 of Part B of this permit. Therefore, the requirements of this section do not apply.

10. Section C.5 of Part A, insert the following:

    The requirements of this section only apply when collection of bottom sediment samples is specified in Table 1 of Part B. Collection of bottom sediment samples is not specified in Table 1 of Part B of this permit so the requirements of this section do not apply.

11. Section D.1 of Part A, insert the following:

    The requirements of this section only apply when receiving water standard observations are specified in table 1 of Part B. Receiving water standard observations are not specified in Table 1 of Part B of this permit. Therefore, the requirements of this section do not apply.

12. Section D.2 of Part A, insert the following:

    The requirements of this section only apply when wastewater effluent standard observations are specified in Table 1 of Part b. Beach and shoreline standard observations are not specified in Table 1 of Part B of this permit. Therefore, the requirements of this section do not apply.

13. Section D.3 of Part A, insert the following:

    The requirements of this section only apply when beach and shoreline standard observations are specified in Table 1 of Part B. Beach and shoreline standard observations are not specified in Table 1 of Part B of this permit. Therefore, the requirements of this section do not apply.

14. Section D.4 of Part A, insert the following:

    The requirements of this section are only applicable to facilities with on site surface impoundments or disposal areas. EBMUD's Main Wastewater Treatment Plant does not include any surface impoundments or disposal areas. Therefore, the requirements of this section do not apply.

15. Section D.5 of Part A, insert the following:

    The requirements of this section only apply when facility periphery standard observations are specified in Table 1 of Part B. Facility periphery standard observations are not specified in Table 1 of Part B of this permit. Therefore, the requirements of this section do not apply.

16. Section E.1 of Part A shall be modified as follows:

    a. Written reports, electronic records, strip charts, equipment calibration and maintenance records, and other records pertinent to demonstrating compliance with waste discharge requirements including self-monitoring program requirements, shall be maintained by the Discharger in a manner and at a location (e.g., wastewater treatment plant or Discharger offices) such that the records are accessible to Board staff. These records shall be retained by the Discharger for a minimum of three years. The minimum period of retention shall be extended during the course of any unresolved litigation regarding the subject discharges, or when requested by the Board or by the Regional Administrator of the U.S. EPA, Region IX. Records to be maintained shall include the following:

        (1) Parameter Sampling and Analyses, and Observations.
        For each sample, analysis or observation conducted, records shall include the following:

            (i) Parameter

            (ii) Identity of sampling or observation station, consistent with the station descriptions given in this SMP.

            (iii) Date and time of sampling or observation.

            (iv) Method of sampling (grab, composite, other method)

            (v) Date and time analysis started and completed, and name of personnel or contract laboratory performing the analysis.

            (vi) Reference or description of procedure(s) used for sample preservation and handling, and analytical method(s) used.

            (vii) Calculations of results.

            (viii) Analytical method detection limits and related quantitation parameters.

            (ix) Results of analyses or observations.

        (2) Flow Monitoring Data.
        For all required flow monitoring (e.g., influent and effluent flows), records shall include the following:

(i) Total flow or volume, for each day.

(ii) Maximum, minimum and average daily flows for each calendar month.

(3) Wastewater Treatment Process Solids.

(i) For each treatment process unit which involves solid removal from the wastewater stream, records shall include the following:
1. Total volume and/or mass quantification of solids removed from each unit (e.g., grit, skimmings, undigested sludge), for each calendar month; and
2. Final disposition of such solids (e.g., landfill, other subsequent treatment unit).

(ii) For final dewatered sludge from the treatment plant as whole, records shall include the following:
1. Total volume and/or mass quantification of dewatered sludge, for each calendar month;
2. Solids content of the dewatered sludge; and
3. Final disposition of dewatered sludge (point of disposal location and disposal method).

B. Disinfection Process.
For the disinfection process, records shall be maintained documenting process operation and performance, including the following:
1. For bacteriological analyses:
a. Date and time of each sample collected
b. Wastewater flow rate at the time of sample collection
c. Results of sample analyses (coliform count)
d. Required statistical parameters of cumulative coliform values (e.g., moving median or log mean for number of samples or sampling period identified in waste discharge requirements).

2. For chlorination process, at least daily average values for the following:
a. Chlorine residual in contact basin (mg/L)
b. Chlorine dosage (kg/day)

17. Section F.1 of Part A shall be modified as follows:
a. A report shall be made of any spill of oil or other hazardous material to waters of the U.S.

b. The spill shall be reported by telephone as soon as possible and no later than 24 hours following occurrence or Discharger's knowledge of occurrence. Spills shall be reported by telephone as follows:

(1) During weekdays, during office hours of 8 am to 5 pm, to the Regional Board:
Current phone number: (510) 622 - 2300.
Current Fax number: (510) 622 – 2460.

(2) During non-office hours, to the State Office of Emergency Services:
Current phone number: (800) 852 - 7550.

c. A written report shall be submitted to the Regional Board within five (5) working days following telephone notification, unless directed otherwise by Board staff. A report

submitted by facsimile transmission is acceptable for this reporting. The written report shall include the following:

(1) Date and time of spill, and duration if known.
(2) Location of spill (street address or description of location).
(3) Nature of material spilled.
(4) Quantity of material involved.
(5) Receiving water body affected.
(6) Cause of spill.
(7) Observed impacts to receiving waters (e.g., discoloration, oil sheen, fish kill).
(8) Corrective actions that were taken to contain, minimize or cleanup the spill.
(9) Future corrective actions planned to be taken in order to prevent recurrence, and time schedule of implementation.
(10) Persons or agencies contacted.

18. Section F.2 of Part A shall be modified as follows:

In the event the Discharger violates the conditions of this permit the Discharger shall notify the Regional Board office by telephone as soon as he or his agents have knowledge of the incident and confirm this notification in writing within 5 working days of the telephone notification. The written report shall include time, date, nature, and cause of the violation to the degree known. The report shall also identify what steps have been or will be taken to investigate, remediate, and/or prevent the problem from recurring as applicable.

In addition, the Discharger shall promptly accelerate his monitoring program to analyze the discharge at least once every day (Section C.2.h). Such daily analyses shall continue until such time as the effluent limits have been attained, until bypassing stops or until such time as the Executive Officer determines to be appropriate. The results of such monitoring shall be included in the regular Self-Monitoring Report.

The Discharger shall notify the Board at least 10 days in advance of any planned bypaseese that may cause an exceedance of the effluent limitations specified in this permit..

19. Section F.4 of Part A shall be modified as follows:
For each calendar month, a self-monitoring report (SMR) shall be submitted to the Board in accordance with the following:

a. The report shall be submitted to the Board no later than 30 days from the last day of the reporting month.

b. *Letter of Transmittal*
Each report shall be submitted with a letter of transmittal. This letter shall include the following:

(1) Identification of all violations of effluent limits or other discharge requirements found during the monitoring period;

(2) Details of the violations: parameters, magnitude, test results, frequency, and dates;

(3) The cause of the violations;

(4) Discussion of corrective actions taken or planned to resolve violations and prevent recurrence, and dates or time schedule of action implementation. If previous reports have been submitted that address corrective actions, reference to such reports is satisfactory.

(5) Signature: The letter of transmittal shall be signed by the Discharger's principal executive officer or ranking elected official, or duly authorized representative, and shall include the following certification statement:

"I certify under penalty of law that this document and all attachments have been prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. The information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

c. *Compliance Evaluation Summary*
Each report shall include a compliance evaluation summary. This summary shall include, for each parameter for which effluent limits are specified in the Permit, the number of samples taken during the monitoring period, and the number of samples in violation of applicable effluent limits.

d. *Results of Analyses and Observations.*
(1) Tabulations of all required analyses and observations, including parameter, sample date and time, sample station, and test result.

(2) If any parameter specified in Table 1 of Part B is monitored more frequently than required by this permit and SMP, the results of this additional monitoring shall be included in the monitoring report, and the data shall be included in data calculations and compliance evaluations for the monitoring period.

(3) Calculations for all effluent limits that require averaging of measurements shall utilize an arithmetic mean, unless specified otherwise in this permit or SMP.

e. *Data Reporting for Results Not Yet Available.*
The Discharger shall make all reasonable efforts to obtain analytical data for required parameter sampling in timely manner. The Board recognizes that certain analyses require additional time in order to complete analytical processes and result reporting. For cases where required monitoring parameters require additional time to complete analytical processes and reporting, and results are not available in time to be included in the SMR for the subject monitoring period, such cases shall be described in the SMR. Data for these parameters, and relevant discussions of any observed violations, shall be included in the next SMR due after results are available.

f. *Report Submittal*:
The Discharger shall submit SMRs to:

Executive Officer
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612
Attn: NPDES Division

g. *Reporting Data in Electronic Format.*
The Discharger has the option to submit all monitoring results in electronic reporting format approved by the Executive Officer. If the Discharger chooses to submit the SMRs electronically, the following shall apply:

(1) *Reporting Method*: The Discharger shall submit SMRs electronically via the process approved by the Executive Officer in a letter dated December 17, 1999, Official Implementation of Electronic Reporting System (ERS).

(2) *Modification of reporting requirements:* Reporting requirements F.4 in the attached *Self-Monitoring program, Part A*, dated August 1993, shall be modified as follows. In the future, the Board intends to modify Part A to reflect these changes.

(i) Monthly Report Requirements:
Monthly Reporting Requirements: For each calendar month, a self-monitoring report (SMR) shall be submitted to the Board in accordance with the following:

1. The report shall be submitted to the Board no later than 30 days from the last day of the reporting month.

2. Letter *of Transmittal*
Each report shall be submitted with a letter of transmittal. This letter shall include the following:

a. Identification of all violations of effluent limits or other discharge requirements found during the monitoring period;
b. Details of the violations: parameters, magnitude, test results, frequency, and dates;
c. The cause of the violations;
d. Discussion of corrective actions taken or planned to resolve violations and prevent recurrence, and dates or time schedule of action implementation. If previous reports have been submitted that address corrective actions, reference to such reports is satisfactory.
e. Signature: The letter of transmittal shall be signed by the Discharger's principal executive officer or ranking elected official, or duly authorized representative, and shall include the following certification statement:
f. "I certify under penalty of law that this document and all attachments have been prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. The information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

3. Compliance Evaluation Summary
Each report shall include a compliance evaluation summary. This summary shall include the number of samples in violation of applicable effluent limits.

4. Results of Analyses and Observations.

a. Tabulations of all required analyses and observations, including parameter, sample date, sample station, and test result.

b. If any parameter is monitored more frequently than required by this permit and SMP, the results of this additional monitoring shall be included in the monitoring report, and the data shall be included in data calculations and compliance evaluations for the monitoring period.
c. Calculations for all effluent limits that require averaging of measurements shall utilize an arithmetic mean, unless specified otherwise in this permit or SMP.

5. Data Reporting for Results Not Yet Available.
The Discharger shall make all reasonable efforts to obtain analytical data for required parameter sampling in timely manner. The Board recognizes that certain analyses require additional time in order to complete analytical processes and result reporting. For cases where required monitoring parameters require additional time to complete analytical processes and reporting, and results are not available in time to be included in the SMR for the subject monitoring period, such cases shall be described in the SMR. Data for these parameters, and relevant discussions of any observed violations, shall be included in the next following SMR.

(ii) Annual Report Requirements:
An Annual Report shall be submitted for each calendar year. The report shall be submitted to the Board by February 15 of the following year. This report shall include the following:

1. Annual Compliance Summary Table of treatment plant performance during the calendar year.

2. A comprehensive discussion of treatment plant performance and compliance with waste discharge requirements. This discussion should include any corrective actions taken or planned such as changes to facility equipment or operation practices which may be needed to achieve compliance, and any other actions taken or planned that are intended to improve performance and reliability of the Discharger's wastewater collection, treatment or disposal practices.

20. Section G.2 of Part A shall be modified as follows:

A composite sample is defined as a sample composed of individual grab samples collected manually or by an autosampling device on the basis of time and/or flow as specified in Table 1 of Part B. For flow-based compositing, the proportion of each grab sample included in the composite sample shall be within plus or minus five percent from the representative flow rate of the waste stream being sampled measured at the time of grab sample collection. Alternately, equal volume grab samples may be individually analyzed and the flow-weighted average calculated by averaging flow-weighted ratios of each grab sample analytical result. Grab samples forming time-based composite samples shall be collected at intervals not greater than those specified in Table 1 of Part B. The quantity of each grab sample forming a time-based composite sample shall be a set or flow proportional volume as specified in Table 1 of Part B. For cyanide, Oil and Grease, and phenol, a minimum of four grab samples, one every six hours over a 24-hour period shall be used. If a particular time or flow-based composite sampling protocol is not specified in Table 1 of Part B, the Discharger shall determine and implement the most representative sampling protocol for the given parameter subject to approval by the Executive Officer.

21. Section G.5 of Part A shall be modified as follows;

Average values for daily and monthly values are obtained by taking the sum of all daily values divided by the number of all daily values measured during the specified period. In calculating the monthly average, when there is more than one value for a given day, all the values for that day shall be averaged and the average value used as the daily value for that day.

VII. SELF-MONITORING PROGRAM CERTIFICATION

I, Loretta K. Barsamian, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

A. Has been developed in accordance with the procedure set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Board Order No. 01-072.

B. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the Discharger, and revisions will be ordered by the Executive Officer.

C. Is effective as of July 1, 2001.

Loretta K. Barsamian

LORETTA K. BARSAMIAN
Executive Officer

Attachment 1: Chronic Toxicity – Definition of Terms and Screening Phase Requirements

CHRONIC TOXICITY - DEFINITION OF TERMS & SCREENING PHASE REQUIREMENTS

I. Definition of Terms

A. No observed effect level (NOEL) for compliance determination is equal to IC_{25} or EC_{25}. If the IC_{25} or EC_{25} cannot be statistically determined, the NOEL shall be equal to the NOEC derived using hypothesis testing.

B. Effective concentration (EC) is a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Karber. EC_{25} is the concentration of toxicant (in percent effluent) that causes a response in 25% of the test organisms.

C. Inhibition Concentration (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a non-lethal, non-quantal biological measurement, such as growth. For example, an IC_{25} is the estimated concentration of toxicant that would cause a 25% reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as U.S. EPA's Bootstrap Procedure.

D. No observed effect concentration (NOEC) is the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. It is determined using hypothesis testing.

II. Chronic Toxicity Screening Phase Requirements

A. The Discharger shall perform screening phase monitoring:
   1. Subsequent to any significant change in the nature of the effluent discharged through changes in sources or treatment, except those changes resulting from reductions in pollutant concentrations attributable to pretreatment, source control, and waste minimization efforts, or
   2. Prior to Permit reissuance. Screening phase monitoring data shall be included in the NPDES Permit application for reissuance. The information shall be as recent as possible, but may be based on screening phase monitoring conducted within 5 years before the permit expiration date.

B. Design of the screening phase shall, at a minimum, consist of the following elements:
   1. Use of test species specified in Tables 1 and 2 (attached), and use of the protocols referenced in those tables, or as approved by the Executive Officer;
   2. Two stages:
      a. Stage 1 shall consist of a minimum of one battery of tests conducted concurrently. Selection of the type of test species and minimum number of tests shall be based on Table 3 (attached); and
      b. Stage 2 shall consist of a minimum of two test batteries conducted at a monthly frequency using the three most sensitive species based on the Stage 1 test results and as approved by the Executive Officer.
   3. Appropriate controls; and
   4. Concurrent reference toxicant tests.

C. The Discharger shall submit a screening phase proposal to the Executive Officer for approval. The proposal shall address each of the elements listed above.

TABLE 1.1

CRITICAL LIFE STAGE TOXICITY TESTS FOR ESTUARINE WATERS

SPECIES (Scientific Name)	EFFECT	TEST DURATION	REFERENCE
Alga (Skeletonema costatum) (Thalassiosira pseudonana)	growth rate	4 days	1
Red alga (Champia parvula)	number of cystocarps	7-9 days	3
Giant kelp (Macrocystis pyrifera)	percent germination; germ tube length	48 hours	2
Abalone (Haliotis rufescens)	abnormal shell development	48 hours	2
Oyster (Crassostrea gigas)	abnormal shell development; percent survival	48 hours	2
Mussel (Mytilus edulis)	abnormal shell development; percent survival	48 hours	2
Echinoderms (Urchins: Strongylocentrotus purpuratus) (Sand dollar: Dendraster excentricus)	percent fertilization	1 hour	2
Shrimp (Mysidopsis bahia)	percent survival; growth	7 days	3
Shrimp (Holmesimysis costata)	percent survival; growth	7 days	2
Top smelt (Atherinops affinis)	percent survival; growth	7 days	2
Silversides (Menidia beryllina)	larval growth rate; percent survival	7 days	3

1. American Society for Testing Materials (ASTM). 1990. Standard Guide for conducting static 96-hour toxicity tests with microalgae. Procedure E 1218-90. ASTM Philadelphia, PA.

2. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. EPA/600/R-95/136. August 1995

3. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-90/003. July 1994

TABLE 1.2
CRITICAL LIFE STAGE TOXICITY TESTS FOR FRESH WATERS

SPECIES (Scientific Name)	EFFECT	TEST DURATION	REFERENCE
Fathead Minnow (Pimephales promelas)	survival; growth rate	7 days	4
Water Flea (Ceriodaphnia dubia)	survival; number of young	7 days	4
Alga (Selenastrum capricornutum)	cell division rate	4 days	4

Toxicity Test Reference:

4. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Third edition. EPA/600/4-91/002. July 1994

TABLE 1.3
TOXICITY TEST REQUIREMENTS FOR STAGE ONE SCREENING PHASE

REQUIREMENTS	RECEIVING WATER CHARACTERISTICS		
	Discharges to Coast	Discharges to San Francisco Bay‡	
	Ocean	Marine	Freshwater
Taxonomic Diversity:	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish
Number of tests of each salinity type: Freshwater (†): Marine:	 0 4	 1 or 2 3 or 4	 3 0
Total number of tests:	4	5	3

† the fresh water species may be substituted with marine species if:

1) The salinity of the effluent is above 10 parts per thousand (ppt) greater than 95% of the time, or
2) The ionic strength (TDS or conductivity) of the effluent at the test concentration used to determine compliance is documented to be toxic to the test species.

‡ Marine refers to receiving water salinities greater than 10 ppt at least 95% of the time during a normal water year.

Fresh refers to receiving water with salinities less than 10 ppt at least 95% of the time during a normal water year.

Attachment E

Attachment F

PRETREATMENT REQUIREMENTS

Pretreatment Program Provisions

a. The Discharger shall implement all pretreatment requirements contained in 40 CFR 403, as amended. The Discharger shall be subject to enforcement actions, penalties, and fines as provided in the Clean Water Act (33 USC 1351 et seq.), as amended. The Discharger shall implement and enforce their respective Approved Pretreatment Programs or modified Pretreatment Programs as directed by the Board's Executive Officer or the EPA. The EPA and/or the State may initiate enforcement action against an industrial user for noncompliance with applicable standards and requirements as provided in the Clean Water Act.

b. The Discharger shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d) and 402(b) of the Clean Water Act. The Discharger shall cause industrial users subject to Federal Categorical Standards to achieve compliance no later than the date specified in those requirements or, in the case of a new industrial user, upon commencement of the discharge.

c. The Discharger shall perform the pretreatment functions as required in 40 CFR Part 403 and amendments or modifications thereto including, but not limited to:

   i) Implement the necessary legal authorities to fully implement the pretreatment regulations as provided in 40 CFR 403.8(f)(1);

   ii) Implement the programmatic functions as provided in 40 CFR 403.8(f)(2);

   iii) Publish an annual list of industrial users in significant noncompliance as provided per 40 CFR 403.8(f)(2)(vii);

   iv) Provide for the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR 403.8(f)(3); and

   v) Enforce the national pretreatment standards for prohibited discharges and categorical standards as provided in 40 CFR 403.5 and 403.6, respectively.

d. The Discharger shall submit annually a report to the EPA Region 9, the State Board and the Regional Board describing the Discharger's respective pretreatment program activities over the previous twelve months. In the event that the Discharger is not in compliance with any conditions or requirements of this permit, the Discharger shall also include the reasons for noncompliance and a plan and schedule for achieving compliance. The report shall contain, but is not limited to, the information specified in **Appendix A** entitled, "Requirements for Pretreatment Annual Reports," which is made a part of this Order. The annual report is due on the last day of February each year.

e. The Discharger shall submit semiannual pretreatment reports to the EPA Region 9, the State Board and the Board describing the status of their respective significant industrial users (SIUs). The report shall contain, but not is limited to, the information specified in **Appendix B** entitled, "Requirements for Semiannual Pretreatment Reports," which is made part of this Order. The semiannual reports are due July 31st (for the period January through June) and January 31st (for the period July through December) of each year. The Executive Officer may exempt a Discharger from the semiannual

reporting requirements on a case by case basis subject to State Board and EPA's comment and approval.

f. The Discharger may combine the annual pretreatment report with the semiannual pretreatment report (for the July through December reporting period). The combined report shall contain all of the information requested in Appendices A and B and will be due on January 31st of each year.

g. The Discharger shall conduct the monitoring of its treatment plant's influent, effluent, and sludge as described in **Appendix C** entitled, "Requirements for Influent, Effluent and Sludge Monitoring," which is made part of this Order. The results of the sampling and analysis, along with a discussion of any trends, shall be submitted in the semiannual reports. A tabulation of the data shall be included in the annual pretreatment report. The Executive Officer may require more or less frequent monitoring on a case by case basis.

APPENDIX A

REQUIREMENTS FOR PRETREATMENT ANNUAL REPORTS

The Pretreatment Annual Report is due each year on the last day of February. [If the annual report is combined with the semiannual report (for the July through December period) the submittal deadline is January 31st of each year.] The purpose of the Annual Report is 1) to describe the status of the Publicly Owned Treatment Works (POTW) pretreatment program and 2) to report on the effectiveness of the program, as determined by comparing the results of the preceding year's program implementation. The report shall contain at a minimum, but is not limited to, the following information:

1) Cover Sheet

The cover sheet must contain the name(s) and National Pollutant Discharge Elimination Discharge System (NPDES) permit number(s) of those POTWs that are part of the Pretreatment Program. Additionally, the cover sheet must include: the name, address and telephone number of a pretreatment contact person; the period covered in the report; a statement of truthfulness; and the dated signature of a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for overall operation of the POTW (40 CFR 403.12(j)).

2) Introduction

The Introduction shall include any pertinent background information related to the District, the POTW and/or the Industrial base of the area. Also, this section shall include an update on the status of any Pretreatment Compliance Inspection (PCI) tasks, Pretreatment Performance Evaluation tasks, Pretreatment Compliance Audit (PCA) tasks, Cleanup and Abatement Order (CAO) tasks, or other pretreatment-related enforcement actions required by the Regional Board or the EPA. A more specific discussion shall be included in the section entitled, "Program Changes."

3) Definitions

This section shall contain a list of key terms and their definitions that the POTW uses to describe or characterize elements of its pretreatment program.

4) Discussion of Upset, Interference and Pass Through

This section shall include a discussion of Upset, Interference or Pass Through incidents, if any, at the POTW(s) that the Discharger knows of or suspects were caused by industrial discharges. Each incident shall be described, at a minimum, consisting of the following information:

a) a description of what occurred;
b) a description of what was done to identify the source;
c) the name and address of the IU responsible
d) the reason(s) why the incident occurred;
e) a description of the corrective actions taken; and
f) an examination of the local and federal discharge limits and requirements for the purposes of determining whether any additional limits or changes to existing requirements may be necessary to prevent other Upset, Interference or Pass Through incidents.

5) **Influent, Effluent and Sludge Monitoring Results**

This section shall provide a summary of the analytical results from the "Influent, Effluent and Sludge Monitoring" as specified in Appendix C. The results should be reported in a summary matrix that lists monthly influent and effluent metal results for the reporting year.

A graphical representation of the influent and effluent metal monitoring data for the past five years shall also be provided with a discussion of any trends.

6) **Inspection and Sampling Program**

This section shall contain at a minimum, but is not limited to, the following information:

a) Inspections: the number of inspections performed for each type of IU; the criteria for determining the frequency of inspections; the inspection format procedures;
b) Sampling Events: the number of sampling events performed for each type of IU; the criteria for determining the frequency of sampling; the chain of custody procedures.

7) **Enforcement Procedures**

This section shall provide information as to when the approved Enforcement Response Plan (ERP) had been formally adopted or last revised. In addition, the date the finalized ERP was submitted to the Regional Board shall also be given.

8) **Federal Categories**

This section shall contain a list of all of the federal categories that apply to the POTW. The specific category shall be listed including the subpart and 40 CFR section that applies. The maximum and average limits for the each category shall be provided. This list shall indicate the number of Categorical Industrial Users (CIUs) per category and the CIUs that are being regulated pursuant to the category. The information and data used to determine the limits for those CIUs for which a combined waste stream formula is applied shall also be provided.

9) **Local Standards**

This section shall include a table presenting the local limits.

10) **Updated List of Regulated SIUs**

This section shall contain a complete and updated list of the Discharger's Significant Industrial Users (SIUs), including their names, addresses, and the reason why the SIU is classified as "significant." The list shall include all deletions and additions keyed to the list as submitted in the previous annual report. All deletions shall be briefly explained.

11) **Compliance Activities**

a) **Inspection and Sampling Summary:** This section shall contain a summary of all the inspections and sampling activities conducted by the Discharger over the past year to gather information and data regarding the SIUs. The summary shall include:

(1) the number of inspections and sampling events conducted for each SIU;

(2) the quarters in which these activities were conducted; and

(3) the compliance status of each SIU, delineated by quarter, and characterized using all applicable descriptions as given below:

(a) in consistent compliance;

(b) in inconsistent compliance;

(c) in significant noncompliance;

(d) on a compliance schedule to achieve compliance, (include the date final compliance is required);

(e) not in compliance and not on a compliance schedule;

(f) compliance status unknown, and why not.

b) **Enforcement Summary:** This section shall contain a summary of the compliance and enforcement activities during the past year. The summary shall include the names of all the SIUs affected by the following actions:

(1) Warning letters or notices of violations regarding SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.

(2) Administrative Orders regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.

(3) Civil actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.

(4) Criminal actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.

(5) Assessment of monetary penalties. Identify the amount of penalty in each case and reason for assessing the penalty.

(6) Order to restrict/suspend discharge to the POTW.

(7) Order to disconnect the discharge from entering the POTW.

12) **Baseline Monitoring Report Update**

This section shall provide a list of CIUs that have been added to the pretreatment program since the last annual report. This list of new CIUs shall summarize the status of the respective Baseline Monitoring Reports (BMR). The BMR must contain all of the information specified in 40 CFR 403.12(b). For each of the new CIUs, the summary shall indicate when the BMR was due; when the CIU was notified by the POTW of this requirement; when the CIU submitted the report; and/or when the report is due.

13) **Pretreatment Program Changes**

This section shall contain a description of any significant changes in the Pretreatment Program during the past year including, but not limited to: legal authority, local limits, monitoring/ inspection program and frequency, enforcement protocol, program's administrative structure, staffing level, resource requirements and funding mechanism. If the manager of the pretreatment program changes, a revised organizational chart shall be included. If any element(s) of the program is in the process of being modified, this intention shall also be indicated.

14) **Pretreatment Program Budget**

This section shall present the budget spent on the Pretreatment Program. The budget, either by the calendar or fiscal year, shall show the amounts spent on personnel, equipment, chemical analyses and any other appropriate categories. A brief discussion of the source(s) of funding shall be provided.

15) **Public Participation Summary**

This section shall include a copy of the public notice as required in 40 CFR 403.8(f)(2)(vii). If a notice was not published, the reason shall be stated.

16) **Sludge Storage and Disposal Practice**

This section shall have a description of how the treated sludge is stored and ultimately disposed. The sludge storage area, if one is used, shall be described in detail. Its location, a description of the containment features and the sludge handling procedures shall be included.

17) **PCS Data Entry Form**

The annual report shall include the PCS Data Entry Form. This form shall summarize the enforcement actions taken against SIUs in the past year. This form shall include the following information: the POTW name, NPDES Permit number, period covered by the report, the number of SIUs in significant noncompliance (SNC) that are on a pretreatment compliance schedule, the number of notices of violation and administrative orders issued against SIUs, the number of civil and criminal judicial actions against SIUs, the number of SIUs that have been published as a result of being in SNC, and the number of SIUs from which penalties have been collected.

18) **Other Subjects**

Other information related to the Pretreatment Program that does not fit into one of the above categories should be included in this section.

Signed copies of the reports shall be submitted to the Regional Administrator at USEPA, the State Water Resources Control Board and the Regional Board at the following addresses:

Regional Administrator
United States Environmental Protection Agency
Region 9, Mail Code: WTR-7
Clean Water Act Compliance Office
Water Division
75 Hawthorne Street
San Francisco, CA 94105

Pretreatment Program Manager
Regulatory Unit
State Water Resources Control Board
Division of Water Quality
1001 I Street
Sacramento, CA 95814

Pretreatment Coordinator
NPDES Permits Division
SF Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

APPENDIX B:

REQUIREMENTS FOR SEMIANNUAL PRETREATMENT REPORTS

The semiannual pretreatment reports are due on July 31st (for pretreatment program activities conducted from January through June) and January 31st (for pretreatment activities conducted from July through December) of each year, unless an exception has been granted by the Board's Executive Officer. The semiannual reports shall contain, at a minimum, but is not limited to, the following information:

1) **Influent, Effluent and Sludge Monitoring**

The influent, effluent and sludge monitoring results shall be included in the report. The analytical laboratory report shall also be included, with the QA/QC data validation provided upon request. A description of the sampling procedures and a discussion of the results shall be given. (Please see Appendix C for specific detailed requirements.) The contributing source(s) of the parameters that exceed NPDES limits shall be investigated and discussed. In addition, a brief discussion of the contributing source(s) of all organic compounds identified shall be provided.

The Discharger has the option to submit all monitoring results via an electronic reporting format approved by the Executive Officer. The procedures for submitting the data will be similar to the electronic submittal of the NPDES self-monitoring reports as outlined in the December 17, 1999 Regional Board letter, Official Implementation of Electronic Reporting System (ERS). The Discharger shall contact the Regional Board's ERS Project Manager for specific details in submitting the monitoring data.

If the monitoring results are submitted electronically, the analytical laboratory reports (along with the QA/QC data validation) should be kept at the discharger's facility.

2) **Industrial User Compliance Status**

This section shall contain a list of all Significant Industrial Users (SIUs) that were not in consistent compliance with all pretreatment standards/limits or requirements for the reporting period. The compliance status for the previous reporting period shall also be included. Once the SIU has determined to be out of compliance, the SIU shall be included in the report until consistent compliance has been achieved. A brief description detailing the actions that the SIU undertook to come back into compliance shall be provided.

For each SIU on the list, the following information shall be provided:

a. Indicate if the SIU is subject to Federal categorical standards; if so, specify the category including the subpart that applies.

b. For SIUs subject to Federal Categorical Standards, indicate if the violation is of a categorical or local standard.

c. Indicate the compliance status of the SIU for the two quarters of the reporting period.

d. For violations/noncompliance occurring in the reporting period, provide (1) the date(s) of violation(s); (2) the parameters and corresponding concentrations exceeding the limits and the discharge limits for these parameters and (3) a brief summary of the noncompliant event(s) and the steps that are being taken to achieve compliance.

3) **POTW's Compliance with Pretreatment Program Requirements**

This section shall contain a discussion of the Discharger's compliance status with the Pretreatment Program Requirements as indicated in the latest Pretreatment Compliance Audit (PCA) Report, Pretreatment Compliance Inspection (PCI) Report or Pretreatment Performance Evaluation (PPE) Report. It shall contain a summary of the following information:

a. Date of latest PCA, PCI or PPE and report.
b. Date of the Discharger's response.
c. List of unresolved issues.
d. Plan and schedule for resolving the remaining issues.

The reports shall be signed by a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for the overall operation of the Publicly Owned Treatment Works (POTW) (40 CFR 403.12(j)). Signed copies of the reports shall be submitted to the Regional Administrator at USEPA, the State Water Resources Control Board and the Regional Board at the following addresses:

Regional Administrator
United States Environmental Protection Agency
Region 9, Mail Code: WTR-7
Clean Water Act Compliance Office
Water Division
75 Hawthorne Street
San Francisco, CA 94105

Pretreatment Program Manager
Regulatory Unit
State Water Resources Control Board
Division of Water Quality
1001 I Street
Sacramento, CA 95814

Pretreatment Coordinator
NPDES Permits Division
SF Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

APPENDIX C

REQUIREMENTS FOR INFLUENT, EFFLUENT AND SLUDGE MONITORING

The Discharger shall conduct sampling of their respective treatment plant's influent, effluent and sludge at the frequency as shown in Table 1 on Page 44.

The monitoring and reporting requirements of the POTW's Pretreatment Program are in addition to those specified in the individual POTW's NPDES permit. Any subsequent modifications of the NPDES requirements shall be adhered to and shall not affect the requirements described in this Appendix unless written notice from the Regional Board is received. When sampling periods coincide, one set of test results, reported separately, may be used for those parameters that are required to be monitored in both the Discharger's NPDES permit and Pretreatment Program. Monitoring reports required by this Order shall be sent to the Pretreatment Coordinator.

1. **Influent and Effluent Monitoring**

The Discharger shall monitor for the parameters using the required test methods listed in Table 1 (page 44). Any test method substitutions must have received prior written Regional Board approval. In addition, unless instructed otherwise in writing, the Discharger shall continue to monitor for those parameters at the frequency stated in Table 1. Influent and Effluent sampling locations shall be the same as those sites specified in the POTW's Self-Monitoring Program as set forth in its NPDES permit.

The influent and effluent sampled should be taken during the same 24-hour period. All samples must be representative of daily operations. A grab sample, shall be used for volatile organic compounds, cyanide and phenol. In addition, any samples for oil and grease, polychlorinated biphenyls, dioxins/furans, and polynuclear aromatic hydrocarbons shall be grab samples. For all other pollutants, 24-hour composite samples must be obtained through flow-proportioned composite sampling. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR Part 136 and amendments thereto. For effluent monitoring, the reporting limits for the individual parameters shall be at or below the minimum levels (MLs) as stated in the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (2000) [also known as the State Implementation Policy (SIP)]; any revisions to the MLs shall be adhered to. If a parameter does not have a stated minimum level then the Discharger shall conduct the analyses using the lowest commercially available and reasonably achievable detection levels.

The following standardized report format should be used for submittal of the influent and effluent monitoring report. A similar structured format may be used but will be subject to Regional Board approval. The monitoring reports shall be submitted with the Semiannual Reports.

A. Sampling Procedures – This section shall include a brief discussion of the sample locations, collection times, how the sample was collected (i.e., direct collection using vials or bottles, or other types of collection using devices such as automatic samplers, buckets, or beakers), types of containers used, storage procedures and holding times. Include description of prechlorination and chlorination/dechlorination practices during the sampling periods.

B. Method of Sampling Dechlorination – A brief description of the sample dechlorination method prior to analysis shall be provided.

C. Sample Compositing – The manner in which samples are composited shall be described. If the compositing procedure is different from the test method specifications, a reason for the variation shall be provided.

D. Data Validation – All quality assurance/quality control (QA/QC) methods to be used shall be discussed and summarized. These methods include, but are not limited to, spike samples, split samples, blanks and standards. Ways in which the QA/QC data will be used to qualify the analytical test results shall be identified. A certification statement shall be submitted with this discussion stating that the laboratory QA/QC validation data has been reviewed and has met the laboratory acceptance criteria. The QA/QC validation data shall be submitted to the Regional Board upon request.

E. A tabulation of the test results shall be provided.

F. Discussion of Results – The report shall include a complete discussion of the test results. If any pollutants are detected in sufficient concentration to upset, interfere or pass through plant operations, the type of pollutant(s) and potential source(s) shall be noted, along with a plan of action to control, eliminate, and/or monitor the pollutant(s). Any apparent generation and/or destruction of pollutants attributable to chlorination/dechlorination sampling and analysis practices shall be noted.

2. **Sludge Monitoring**

Sludge should be sampled in the same 24-hour period during which the influent and effluent are sampled except as noted in (C) below. The same parameters required for influent and effluent analysis shall be included in the sludge analysis. The sludge analyzed shall be a composite sample of the sludge for final disposal consisting of:

A. Sludge lagoons – 20 grab samples collected at representative equidistant intervals (grid pattern) and composited as a single grab, or

B. Dried stockpile – 20 grab samples collected at various representative locations and depths and composited as a single grab, or

C. Dewatered sludge- daily composite of 4 representative grab samples each day for 5 days taken at equal intervals during the daily operating shift taken from a) the dewatering units or b) from each truckload, and shall be combined into a single 5-day composite.

The U.S. EPA manual, POTW Sludge Sampling and Analysis Guidance Document, August 1989, containing detailed sampling protocols specific to sludge is recommended as a guidance for sampling procedures. The U.S. EPA manual Analytical Methods of the National Sewage Sludge Survey, September 1990, containing detailed analytical protocols specific to sludge, is recommended as a guidance for analytical methods.

In determining if the sludge is a hazardous waste, the Dischargers shall adhere to Article 2, "Criteria for Identifying the Characteristics of Hazardous Waste," and Article 3, "Characteristics of Hazardous Waste," of Title 22, California Code of Regulations, Sections 66261.10 to 66261.24 and all amendments thereto.

Sludge monitoring reports shall be submitted with the appropriate Semiannual Report. The following standardized report format should be used for submittal of the report. A similarly structured form may be used but will be subject to Regional Board approval.

A. Sampling procedures – Include sample locations, collection procedures, types of containers used, storage/refrigeration methods, compositing techniques and holding times. Enclose a map of sample locations if sludge lagoons or stockpiled sludge is sampled.

B. Data Validation – All quality assurance/quality control (QA/QC) methods to be used shall be discussed and summarized. These methods include, but are not limited to, spike samples, split samples, blanks and standards. Ways in which the QA/QC data will be used to qualify the analytical test results shall be identified. A certification statement shall be submitted with this discussion stating that the laboratory QA/QC validation data has been reviewed and has met the laboratory acceptance criteria. The QA/QC validation data shall be submitted to the Regional Board upon request.

C. Test Results – Tabulate the test results and include the percent solids.

D. Discussion of Results – The report shall include a complete discussion of test results. If the detected pollutant(s) is reasonably deemed to have an adverse effect on sludge disposal, a plan of action to control, eliminate, and/or monitor the pollutant(s) and the known or potential source(s) shall be included. Any apparent generation and/or destruction of pollutants attributable to chlorination/ dechlorination sampling and analysis practices shall be noted.

The Discharger shall also provide any influent, effluent or sludge monitoring data for nonpriority pollutants that the permittee believes may be causing or contributing to Interference, Pass Through or adversely impacting sludge quality.

Winston H. Hickox
Secretary for Environmental Protection

California Regional Water Quality Control Board

San Francisco Bay Region

Gray Davis
Governor

Internet Address: http://www.swrcb.ca.gov
1515 Clay Street, Suite 1400, Oakland, California 94612
Phone (510) 622-2300 • FAX (510) 622-2460

Date: JUL 0 6 2001
File: 2199.9014(JCH)

Certified Mail No. 70993220000146714348
Mr. Ben Horenstein
East Bay Municipal Utility District
P.O. Box 24055
Oakland, CA 94623

Dear Mr. Horenstein:

The Regional Board adopted Order No. 01-072 at its regular monthly meeting on Wednesday, June 20, 2001. I have enclosed the adopted order which reissues the NPDES permit for East Bay Municipal Utility District, Special District No.1, Water Pollution Control Plant. Please note that the attached Self Monitoring Program incorporates several minor changes to the type of samples for certain organic priority pollutants (i.e. composite to grab). These changes are made pursuant to 40 CFR 122.63.

Should you have any questions or comments regarding this matter, please contact Judy C. Huang of my staff at (510) 622-2363 or email her at jch@rb2.swrcb.ca.gov.

Sincerely,

Loretta K. Barsamian

Loretta Barsamian
Executive Officer

Enclosure: Order No. 01-072
cc: Mailing List